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MAGAZINE

Noel Francis

October 1931
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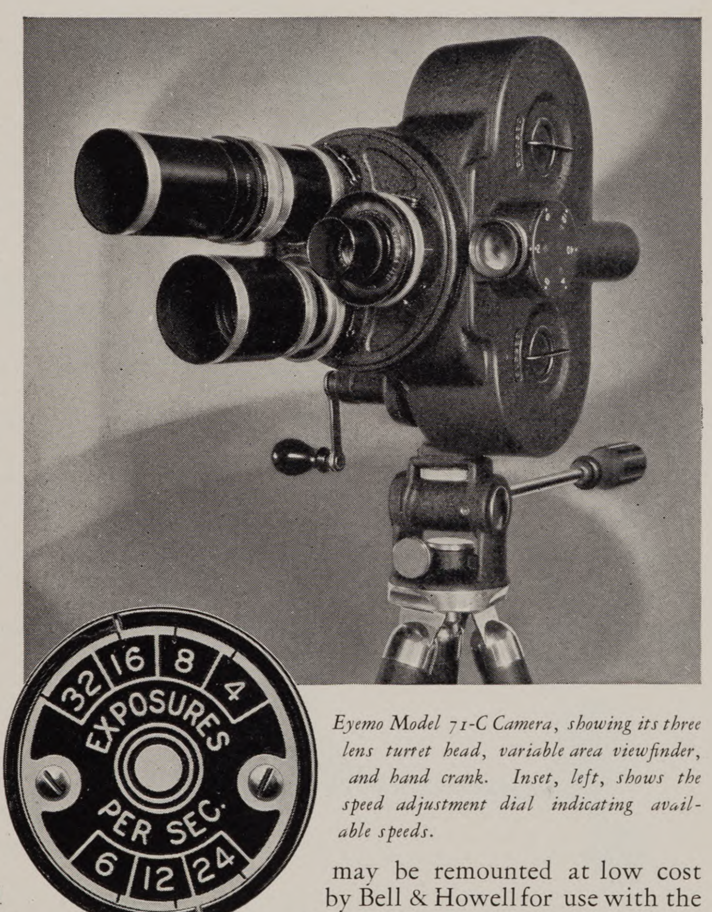

Eyemo Model 71-C Camera, showing its three lens turret head, variable area viewfinder, and hand crank. Inset, left, shows the speed adjustment dial indicating available speeds.

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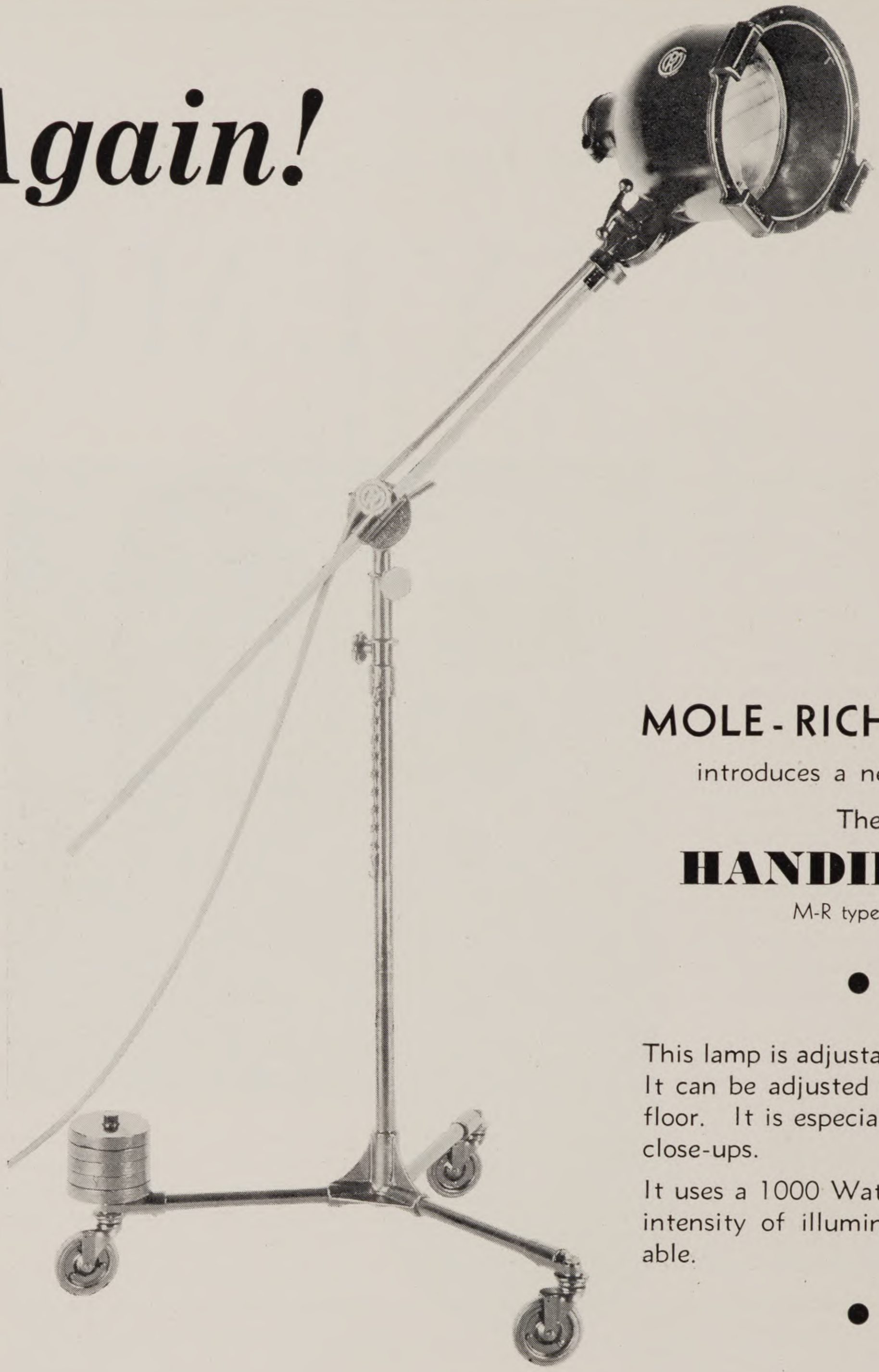

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CONTENTS

Page

UNDERSEA PHOTOGRAPHY WITH AN EYEMO, by A. L. Gilks, A. S. C. 9

SILENT MOVIES COME BACK, by Prof. J. T. Armstrong 11

SCREEN DEFINITION, by Dr. L. M. Dieterich 12

PATHE STUDIO USES NEW PHOTOPHONE PORTABLE RECORDER, by Wm. Stull, A. S. C. 13

MANY INNOVATIONS IN NEW M-G-M LABORATORY, by Wm. Stull, A. S. C. 14

SOME THOUGHTS ON LOW KEY LIGHTING, by Charles Lang, A. S. C. 15

HAL HALL SAYS 16

LABORATORY DEPARTMENT, by Emery Huse, A. S. C. 26

AMATEUR MOVIE MAKING, by Wm. Stull, A. S. C. 30

BABBLING ABOUT BRITTANY, by Lawrence Grant 33

THE CINE CAMERA AND THE DANCE, by Philip Newberg 37

Cover, photograph by Russell Ball

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- The American Cinematographer will present a prize of $500.00 for what its judges consider the best 16 millimeter picture submitted in this contest. $250.00 will be given as second prize; $150.00 as third prize; and $100.00 as fourth prize, a total of $1000.00 in prizes.
- This contest is open ONLY to AMATEURS. No professional cinematographer will be eligible to compete. It is a contest solely for the amateur, either the individual or the club.

- The contest officially opens November 1, 1931. The contest ends at midnight of October 31, 1932. All pictures must be entered by the closing date or they will not be considered. Entries mailed or expressed bearing the date of sending will be accepted if they reach THE AMERICAN CINEMATOGRAPHER office after October 31, 1932, providing the date shows they were sent before midnight of October 31, 1932.

- Pictures submitted in this contest will be judged upon photography, composition, direction, acting, cutting and entertainment value. And only silent pictures will be eligible for the contest. The judges, whose names will be announced later, will include outstanding and widely known Cameramen, Directors, Actors, Writers and a group of nationally known Motion Picture critics from some of the best known newspapers in America.

- The decision of the judges will be absolutely final, and there can be no appeal from their decision. Announcement of the awards will be made as soon after the close of the contest as possible and checks will be mailed the winners.

- Pictures may be submitted either by individual amateur movie makers, or they may be submitted by Amateur Movie Clubs. However, they MUST BE photographed on 16 millimeter or 9 millimeter film. Accompanying each entry must be a sworn statement to the effect that no professional cinematographer assisted in the making of the picture. No pictures will be accepted which were photographed on 35 millimeter film and then reduced to 16 millimeter.

- This contest is open to amateurs and amateur clubs anywhere in the world, with the following conditions.

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- If you are a paid-up subscriber to THE AMERICAN CINEMATOGRAPHER you are eligible to enter the contest. If you are not a subscriber just send in your check for a year's subscription and you are eligible.

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- If a club with a membership of 20 or less wishes to enter a picture, the club will have to have a minimum of 5 subscribers among its members. Any club with more than 20 members will have to have a minimum of 10 subscribers among its members. For any further information you may desire, write the Editor of the American Cinematographer, 1222 Guaranty Building, Hollywood, Calif.

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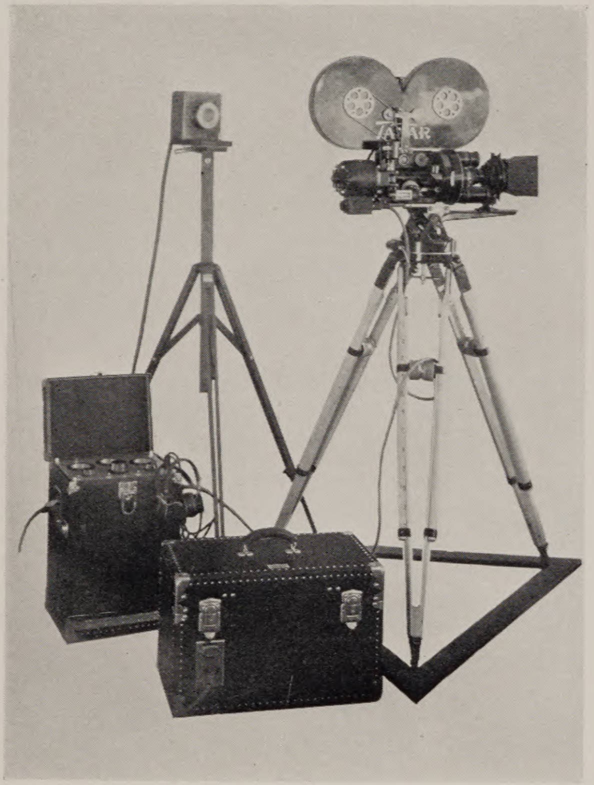

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CAMERA!

By LLEWELLYN MILLER

Reprinted from the Los Angeles Record of September 19, 1931

¶ **"CAMERA,"** calls the director, and a man beyond the range of the brilliant lights holds himself ready. That man behind the black box, which is the very life of moving pictures, is an obscure personality, except to a small circle within the industry itself. His name does not make electric lights on any theatre. Many times he does not receive acknowledgment, even in small type, on the credit lists. He is just the cameraman . . . . necessary but somehow unnoticed.

There is a reason.

All too frequently in these days, when the motion picture is still discovering that it can be an art, photographing a picture is just a routine job. All too frequently flat lighting, a static camera, and unrelentingly monotonous angles have made the camera job not worthy of any particular notice.

We have become used to expertly made pictures. The public has reached the point now where they need something more than a competent mechanical job to keep them interested.

Then, once in a while, along comes a film which shows the brilliant effect of one man's ingenuity. Immediate interest follows.

¶ **THIS CAMERA,** this small machine of cogs and wheels, and strips of film, is a challenge to the talented, and a defiance to the dumb. Lights and shadows . . . moving lines and masses . . . those are the cameraman's tools. With them he can make an ordinary picture distinguished, give a poor plot a certain feeling of significance, and make or break a mood in an audience.

¶ **DIRECTORS** of the future are going to have to be competent behind a camera as well as able to control actors in a pattern of drama. It is just as absurd to expect a painter to employ another man to mix his colors, as to expect a director to rely upon a cameraman to compose his effects for him.

Only once in a long while is such a combination successful. It happened in "The Spider."

Some day, the camera is going to come into its own, and be recognized as the most important tool in making a picture that moves.

That will be the day when the flagging interest of the public will be intrigued again in the product of film studios.

That will be the day when pictures can rival the stage on the basis of aesthetic achievement.

That will be the day when something of real value will happen every time a director calls,

"Camera!"

Undersea Photography with an Eyemo

by **ALFRED L. GILKS, A.S.C.**

Chief Cinematographer, Vanderbilt Oceanographic Expedition

ACTUAL moving pictures of marine life and conditions can form a very valuable adjunct to the more conventional data collected on an oceanographic expedition. Unfortunately, however, the making of such films usually entails the use of diving bells, or Williamson tubes, the bulk and cost of which generally more than offset the value of such cinematographic records, particularly since the utility of such bulky apparatus is rather limited. Within the last few years, however, a device has been perfected which brings undersea cinematography to the point of real practicability. This device is what might be termed a diving suit for an Eyemo camera, and it brings to the underwater cinematographer all of the many practical advantages of the hand cine camera, and at the same time widens his scope considerably, as he may work freely in a diving suit, going after his subjects, rather than waiting for them to come to him.

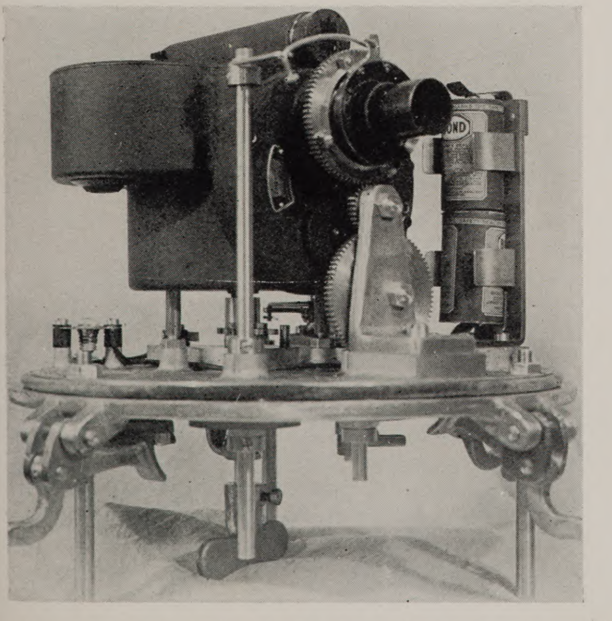
The origin and development of this case—one of which I am fortunate enough to have with me on this present expedition—is due to Mr. E. R. F. Johnson, of Camden, N. J. Always interested in photography, Mr. Johnson was first attracted to undersea work while spending the winter of 1928-29 in the West Indies. His first case was a crude sheet metal affair in which he placed an Eyemo camera. The results, he tells me, were "mostly experience!" They must have been useful, however, because they enabled him to design and build a better outfit. A trial of this showed the need of further improvements and conveniences, so a third model was made.

The first model was merely a water-tight box to protect the camera, and with an arrangement for operating the trigger-release from the outside. Within its limitations, it worked well enough, but unfortunately it required the removal of the camera from the box for winding, focusing, and adjustment of stops, as well, of course, as reloading. This necessitated coming to the surface of the water far too frequently to be practical, as each trip meant at least a loss of valuable time and daylight—and frequently the loss of many good subjects, as well. Therefore on the second model, a means of winding the camera under water was added.

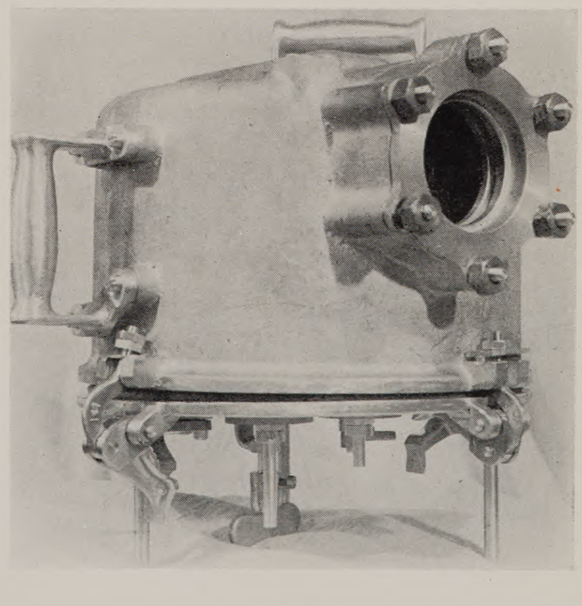
The design of the third model was attacked with the thought that the undersea photographer, being confronted with an entirely new group of problems of light and focusing, to say nothing of the obvious difficulties of working in a diving outfit, should therefore be given all possible conveniences, so that his under water work should approximate as nearly as possible the convenience of open air operation.

The result was particularly pleasing, for with the final model means are provided for focusing, timing, winding, trigger release, sighting, leveling, and footage reading; everything, in fact, but reloading, which must, naturally, be done at the surface. And the camera may be operated under water with the same facility that an uncased Eyemo is used in the open air.

The case is made of two parts: a base which carries the camera and all the operating mechanism, and a cover or hood resting on a gasket in the base, and held water-tight by four easily operated clamps. Reloading is simplicity itself: the clamps are released and the cover is lifted off the base, exposing the camera with the film chamber uppermost, where it can be reloaded in the usual way. Once reloaded, it takes but a few seconds more to replace the cover and lock the clamps, after which the camera can again be lowered to the diver. Since the camera is entirely supported on the base, and operated therefrom, it is unnecessary to disturb any of the operating connections—a very important advantage in undersea work, where the element of time may be of great importance.



Here is how the Eyemo fits into the underwater housing.



The underwater camera housing used by Mr. Gilks for his Eyemo.

The cover is provided with ports for sighting and exposure, and with convenient handles for manipulating the outfit by hand, as well as a socket for tripod mounting.

The approximate overall dimensions of the outfit are 12″ x 14″ x 16″. The weight, in air, loaded, is about 40 lbs. This may seem rather great for a hand-camera, but the displacement makes the effective weight in water much less—practically the same as that of the camera alone in the air, so that it is very easily handled in action.

A troublesome feature of undersea photography, especially in humid climates, is the fogging of the glass exposure port by condensation when the camera is lowered from warm moist air into the cooler water. This has been overcome by providing an air dryer in the form of a container filled with calcium chloride, through which air is forced into the closed camera case. In our preliminary tests, air at 90 degrees and 80% humidity was so thoroughly dried that there was no precipitation when the case was plunged into water at 40 degrees.

Undersea photography presents quite distinct problems in the way of distance, visibility and light intensity. The light is, of course, far less intense, and the clearness of the water directly affects not only this but also visibility. Furthermore, refraction in water is very deceptive, and has a magnifying effect, making apparent distances much less than actual distances. To counteract this, the focusing dial must be specially calibrated for underwater work. The usually accepted index of refraction is 1.3, which we found to give a very satisfactory approximation for preliminary markings, which, of course, were finally corrected under actual underwater operating conditions. The curves secured in calibrating the two lenses that I am using in my outfit—24mm. and 47mm. Cooke "Speed Panchro" lenses—are shown. The curves for air were obtained by clamping a scale to the focusing knob and reading off on this scale the positions of the various focus markings as originally on the lens. The scale was divided into sixty equal parts reading from 0 to 60 as the focal distances advanced from infinity to the minimum possible for the particular lens being calibrated. Then the lens marks were indexed by the line on the camera and read off this equally divided scale in terms of sixtieths of a rotation.

The points thus obtained determined the ordinates of the curve, and using the corresponding distances, the curve was produced.

Various points on the abscissae were taken, and starting from the curve for air, photographs were taken at every other division of the sixty-unit scale. Five or six exposures were taken in this manner for every distance necessary to determine the scale.

The film was then developed and examined for focus. The various exposures were numbered according to the divisions of the outside scale, and the one in focus was plotted on the curve at its corresponding number.

When completed, these points made up the curve for focus under water. Using the same scale, and picking even feet off the curve, and marking these points on this scale resulted in the final scale on the underwater focus dial. Since the camera I am using is one of the turret models, equipped with two lenses, the dial carries two sets of figures, with a moveable cover so that only the desired set of markings can be read.

It is interesting to note that the actual curve for underwater work follows the index figure very closely except at short distances. This is probably due to the greater percentage of air and glass distances in the total distance from the lens to the object at these shorter distances. There may, however, be other factors. In any case, we only used the index curve as a guide for actual calibration.

But by no means all of our photographic work on this expedition will be done underwater. Our itinerary is of such a nature that we will find an abundance of photographic material of a geographic and ethnological nature. From New York (or, to be exact, Northport, L. I.), we have thus far travelled down the Atlantic coast to Florida, then to Cuba, Jamaica, and the Canal Zone. From here our route will be to Cocos Island, then to Galapagos, and then across the Pacific to the Marquesas group. From there we will go to the Taumotu Archipelago, then to the Society Islands, the Cook Group, Tonga, Fiji, New Hebrides, New Caledonia, and to civilization again at Brisbane, Australia. From there we will go along the Great Barrier reef on the northeast coast of Australia. Then to the south coast of New Guinea, then to the Timor Islands, Flores Islands, Java, Sumatra, Malaya, Siam, India, Ceylon, Arabia, then through "the Ditch" and into the Mediterranean. All told, it will take us about six months, and will mean travelling approximately 30,000 miles—mostly quite away from civilization and any base of supplies. Fortunately the Vanderbilt Yacht "Alva," upon which we are travelling, is relatively large, and very completely equipped. The scientific equipment seems complete enough to be able to take care of anything from an amoeba to a whale. Our photographic equipment is hardly behind it: in addition to our submarine Eyemo (which we will occasionally press into service above, as well), we have a Filmo, a standard Bell & Howell, and a Mitchell. Both of the standard cameras are equipped to handle multicolor as well as black-and-white. Naturally, we are carrying an almost unbelievable amount of film for these cameras. In addition, we have an 8x10 still camera and a variety of Graflexes of different sizes. We have a small, but complete darkroom, and adjoining it a special room for the storage of our photographic supplies and apparatus.

Mr. Alfred L. Gilks, A. S. C.

Silent Movies Come Back

by **PROF. J. TARBOTTON ARMSTRONG**

Curator of Motion Picture Museum, University of Southern California

I AM DEAF, but I go to the movies. I cannot hear a word, although I can hear most of the music. But I find that, in many instances, I get more out of them than those who go with me. The reason is that, since I can not hear, the pictures are practically the silent pictures of old. I also find that I enjoy the talking pictures I can not hear, more than I enjoyed the old silent pictures.

In trying to make talking pictures, the producing companies are getting better silent ones, and for this reason I now patronize the movies more than I ever did the silent ones.

I would suggest an experiment—partitioning a portion of a large theatre by glass or some other medium, so that while the picture might be seen, no sound except that of music could enter. Then the producers might study the effects of the silent and talking versions of the same picture upon audiences, and also give some explanation of the present non-attendance of motion picture theatres. The experiment would be certainly worth while. A little explanation would be necessary for the silent version, but this could easily be added. Also, those talkies which have proven failures, might be, with little alteration, reproduced and shown as silents, and should at least make the cost of production.

I feel certain that pre-views I have seen of some productions, that have never been shown to the public, may become good payers if they were shown as silent pictures.

Reference up to the present has been of feature pictures only. But in short subjects the talking portions might in many cases be also eliminated.

In African pictures, for instance, the dialogue is superfluous, although the screen announcement of what the picture represented should be added.

Besides, these screen announcements are beneficial in giving an educational viewpoint on the manners and customs of other countries, which is appreciated by the bulk of the movie fans, and will always be wanted, but is being spoiled by the addition of the talkies, the reason they are tolerated is because they are an excellent medium for imparting knowledge of the inhabitants and customs of the different countries that are not well known, and this will always be liked.

To look at the question from a scientific viewpoint. Why should one who is deaf enjoy the unheard talking pictures more than the silent pictures? Because with the invention of better apparatus the operator has become more able to catch and reproduce movements. As someone has only too truly said "The operator will have obeyed the second law of cinematography when he understands the rhythm of a film, like musical rhythm, consists in an harmonious sequence of pictures, taken from different distances and angles." The directors do not realize it, but they are giving us more "Art," this connected with admirable lighting, and better photographic work than ever, giving splendid entertainment to a deaf movie fan.

I believe that if one of these good operators were to make one of the silent pictures, with the use of his present day apparatus, he might produce a picture that would be acceptable to today's movie fan, because he has increased his film-sense and developed his cinematographic art far beyond that of the days of the silents. The picture will appeal more if in color.

With the addition of color the type of film I am mentioning would certainly outrank the old form of silent motion picture, and possibly lead to the general adoption of this method of producing pictures. If the picture were a good one, little explaining would be needed.

The makers of cinema pictures have in their hands the best means of giving to audiences rest and recreation, which is wanted more and more in this machine-made thinking age.

We are looking forward to these ideas and some other additions becoming the real discovery of cinematographic art.

The talking pictures have brought about many developments in the art of making motion pictures—but became so popular that the old silent pictures were immediately abandoned. While the talking pictures were a novelty, nobody believed that the silent pictures could ever return, and all experiments along the line of improving silent pictures were given up. But the talking and the silent picture are two different mediums of entertainment. Some people prefer to look, others to listen. Some are out to catch every word of flashy dialogue, while others wish to have their concentration upon the movements of the characters, uninterrupted by words which must be heard.

The motion picture offers far greater opportunities of expression by pantomime than does the stage. Another point to be considered is that failure to make acceptable foreign versions will eventually cost great losses in foreign countries for American motion pictures.

Experiments often require a great deal of pains and work, but they are necessary. The talking pictures are losing their hold upon a large portion of their audiences, as shown by recent poor attendance at motion picture theatres. This is a dangerous situation, and a remedy, even if an expensive one, must be found. But the talking picture need not drive either the silent picture or the legitimate stage from existence. They are separate mediums of entertainment, and all will have their following.

There are many who go to the motion pictures for rest and recreation. The silent pictures, generally with organ or orchestra selections added, provided just this. The talking picture can not, since it requires that both eye and ear be constantly on the alert (especially in houses where acoustics are not what they might be).

But if the unheard talking picture can provide better entertainment to one who is deaf than did the old silent picture, this is proof enough of the possibilities of the silent picture, improved as it is by recent inventions. It may well rise to art standards and entertainment values previously not dreamed of.

The screen will always be more visual than aural.

◆

Professor Armstrong, recognized as an authority on the historical phase of motion pictures, will contribute another article in the near future dealing with some early aspects of motion pictures.—Ed.

Screen Definition

by **DR. L. M. DIETERICH**

Consulting Engineer

Part XI

THE SECOND group of individual improvements enhancing depth effect can be subdivided into two classes. The first class comprises special projection methods and the second relates to specific screen designs.

Both of these classes as herein considered relate only to the reactions upon normal binocular human vision without any special viewing devices.

The first class relates fundamentally to endeavors to imitate parallactic screen effects by the simultaneous or alternating projection upon the screen of either stereoscopic couples or relatively displaced identical photographs.

As previously shown it has so far been impossible to project stereoscopic couples of appreciable parallactic characteristics with satisfactory screen registration by either simultaneous or alternating projection.

The results have, to the knowledge of the author, always consisted in either a blurred or partly double images.

If, however, the parallax in taking stereoscopic couples is reduced to such a minimum that their coordinated projection shows non-registration within or closely approaching grain limitations, then only a comparatively small increase of depth effect over that of a standard picture is obtained.

This, in itself, is not of sufficient value to warrant its use, but does become valuable when combined with, in themselves again, only small effects produced by other methods.

The very same conditions exist for the method of the slight displacement of alternating normal photographs.

This method has frequently been tried by vibrating the projector or its optical axis in either linear or circular motion.

A third method consists of slight periodical changes of the focal value of the projection lens system and a fourth method of introducing by lens manipulation small distortion values either permanently or periodically, especially in a horizontal direction.

All of these methods produce, as pointed out in reference to method one, only unimportant results when limited to acceptable screen definition, but result in rather pleasing effects when properly combined.

Such improved projection effects are comparable to those obtained in normal photography, when a camera records distance shots while on a moving support as often observed in aerial photography or when the camera is on board a moving train or boat.

The reason for in this case often startling depth effects lies in the fact that the focus for any given object in the field changes continuously while its image size varies only imperceptibly for adjacent frames.

A judicious use of previously mentioned methods opens in their proper combination the practical possibility of obtaining similar effects by projection methods only.

The second class comprises a great number of special screen designs of which only a few can be mentioned here. These endeavors relate either to characteristic surface treatments of the flat screen, in the predetermined curvature of the screen surface or in the introduction of auxiliary screen surfaces.

As far as interesting improvements in the flat screen field are concerned the so-called Translux screen might here be mentioned which apparently takes advantage of the fact that a transparency always looks more pleasing than a paper print.

This characteristic increase of depth effect by viewing a picture illuminated by transmitted rather than reflected light is well known and has for years been used by rapid sketch artists exhibiting their skill—always on a transparent surface.

The impressive results of their art immediately lose all their charm and depth effect when lighted from the front.

The so-called beaded screen is another interesting result of flat screen improvements. If the crystal beads imbedded in a white cement are of sufficient size the right and left eye of the spectator see two dissimilar pictures producing a pronounced depth effect. Such so effective bead size, however, destroys acceptable screen definition and we have again the condition that in order to maintain such definition the lenticular beads must be and are in practice of such small size that the dissimilarity of binocular impressions is of such a small degree that the increased depth effect, although existing, is hardly perceptible as such but does increase the general pictorial qualities. The manufacturers have recognized these characteristics by advertising such screen of "brilliance and depth, producing almost a stereoscopic effect."

Vertical screen riffles of lenticular or prismatic cross-section produce similarly restricted depth effects.

Screen perforations or other means of discontinuity of the reflecting screen surface, now frequently used for sound effects or transmission, have similar restricted depth effects, comparable to half-tone prints of photographs.

If such visible screen surface interruptions are produced by the superimposition upon the screen of non-continuous and in themselves also reflecting surfaces, we enter into the class of auxiliary screens.

One of the simplest forms known to the author was the covering of a standard screen by a silvered wire mesh screen which combined the effect due to interrupted screen surface with the introduction of two instead of one screen surface. The distance between the two interrupted surfaces and the corresponding blocking of details on the main screen by the auxiliary screen controls the dissimilarity of the pictures as seen by the two eyes and thereby the general depth effect. Here again the distance must be kept very small with a resulting very small increase of depth effect as otherwise a doubling up of details appears.

Similar results were produced by covering a screen with an irregular running sheet of water.

A triangular full screen fastened with one corner in the center of the regular screen, rotating at high speed and about ½" apart from the stationary screen, produced very good depth effect for central vision but double images for side view.

These and a number of similar endeavors to use auxiliary screens at different locations from the main screen again show that whenever appreciable improvements in depth effects are obtained, they are marred by double image distortions and whenever such distortions are reduced to an acceptable minimum, that then the depth effect improvements are not of an independent value to warrant the employ of any one of these methods by itself.

The third group comprises the attempts to produce increased depth effects by curvature of the screen exemplified by the construction of a screen by Dr. Pech some years ago approximating in its curvature (semi-hyperboloid) the focal surface of the projection lens.

(Continued on Page 41)

Pathe Studio Uses New Photophone Portable Recorder

by **WILLIAM STULL, A.S.C.**

WHEN studio recording engineers speak of a portable recorder, they generally have reference to the type which gains its portability by being mounted in a five-ton truck—which it completely fills. The truly portable units, which have achieved a degree of compactness comparable with that of the camera, although they have done yeoman service in the newsreel and commercial fields, have seldom, if ever, been used to record important sequences in the productions of a major studio. This is due to two principal reasons: in the first place, few—if any—units of a major studio have had to work in locations where the existing truck-borne type of recorder could not be used; in the second place, no such featherweight apparatus has been produced by either of the major sound equipment firms, to which the studios are under contract as to recording equipment.

During the making of "Suicide Fleet," a recent RKO-Pathe picture, however, the company was forced to work under conditions where such equipment could not have been used. Fortunately, at almost the same time, the RCA-Photophone engineers had perfected a truly portable recording unit for use with their system, and one of these units was employed in recording much of the picture.

The new outfit is remarkable, not alone for its unusual portability and compactness, but also for being the first of its kind to use the variable area type of record, rather than the variable density type more commonly encountered. It is, of course, of the double-film system, using separate films for soundtrack and picture in accordance with studio practice. The recording head is in appearance very like an ordinary camera, and, like a camera, is mounted on a baby tripod. The actual recording unit is practically identical with the standard Photophone studio unit, except that the galvanometer is rubber-damped rather than oil-damped. This unit has proven itself sufficiently robust to withstand all of the rough handling inevitably incident to location work. Although the present unit does not include the biased track method of ground-noise elimination, it can readily be fitted therewith. Being designed primarily for newsreel use, this noiseless recording feature was deemed unnecessary, although such subsequent units as may be provided for studio use will probably incorporate it.

The amplifier is a special three-stage one developed in the Hollywood laboratory of RCA Photophone Inc., under the direction of Harry Jones and Ralph Townsend. It is equipped to handle two microphones.

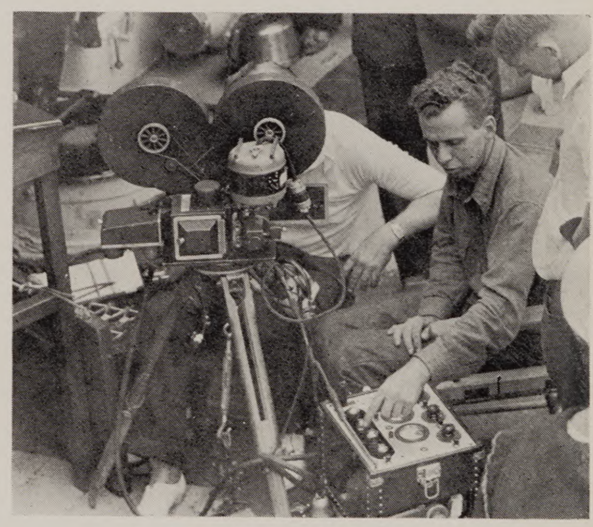
The power supply may be from batteries or from a small generator set such as a Kohler home-lighting plant, which is satisfactorily small and portable for use by studio units.

The complete outfit, except for its power supply, weighs approximately two hundred pounds, and packs into nine small cases, similar to ordinary camera-cases.

The quality of the record is unusually high for a portable recorder. In many respects it equals that of the larger studio units, although its lighter construction naturally precludes the use of so heavy a vibration-damper as the studio recorder is driven through. For dialog and sound-effects, however, it is perfectly satisfactory, while those who attended the Spring Convention of the Society of Motion Picture Engineers in Hollywood will no doubt remember the excellence of the recording made with it in the Mormon Tabernacle at Salt Lake City, by the Mormon Tabernacle Choir.

According to Don Cutler, the recordist on "Suicide Fleet", the picture could hardly have been made but for this new recorder.

"Although we carried one of the regular studio units, which, you know, is mounted on a small hand-truck," he says, "the nature of our locations would have prohibited its use—if we were to turn out the picture on anything like an efficient schedule. For two weeks we were working at sea on destroyers, submarines, and sailing-ships. We simply couldn't have shifted the big unit around under these circumstances. I believe that if we hadn't had the new portable, we'd still be shoving that big unit around the boats, instead of being through with the picture, as we are.



The Recorder in use.

"Besides, there's very little room to work in on a destroyer—and still less on a submarine. We might manage to find room for the big recorder on one of the destroyers; but where we could have stowed it in the sub, I don't know. The little unit, on the other hand, could be used anywhere that there was room to set up a camera.

"The matter of power-supply was relatively simple. While we were working on either of the two clipper-ships that we used, we had plenty of room to use the Kohler generator, which we could locate far enough away from the mikes so that its purr didn't pick up. When we were working on the destroyers or the subs, we merely hooked our generator into the ship's power lines.

"The quality of the recording we could get with the baby outfit surprised all of us. On the rare occasions when recording conditions were ideal, the quality was practically as good as though we had been working on the home lot. When things weren't so ideal, the quality was still surprisingly good. Some of our scenes were made while the destroyer was ploughing through rough seas at twenty-five or thirty knots. Other

(Continued on Page 36)

Many Innovations in New M-G-M Laboratory

by WILLIAM STULL, A.S.C.

A FILMLESS film laboratory! This is the paradoxical impression given by the new film processing plant recently completed by the Metro-Goldwyn-Mayer Studio. For despite the fact that this new plant turns out more than 350,000 feet of film every eight hours, there is never more film in evidence than the comparatively small amount actually being worked upon. From the moment that the film enters the building until the time that it leaves it, it is always kept in fireproof containers except at such times as it may be actually undergoing the processes of development, printing, or assembly. In theory, these precautions may represent nothing new, but in practice they do, for the equipment and routine of the plant have been so devised that these precautions can be exercised at all times without inconvenience or delay.

To technician or layman alike, this new plant is a revelation in its efficient design and operation. To the technician—and particularly to the cinematographer—perhaps the outstanding feature is the fact that it permits both individual treatment of negative development (by a remarkably flexible battery of developing machines) and an unusually high capacity. Its maximum capacity is in excess of 4,000,000 feet of positive and 300,000 feet of negative per week. To the factory-planner, undoubtedly the outstanding features are the amazingly efficient layout and routing of operations devised by its head, John M. Nickolaus, together with the careful planning which allows for an expansion of nearly 50% of its present capacity in case of need, or new developments.

All film enters and leaves the building through a single receiving and shipping room. From this point it is routed in a straight line through the various departments, to return to the shipping room as finished release prints ready to be forwarded to the exchanges throughout the world.

Directly by this receiving room is the loading room, where the film is placed in the camera magazines, and when exposed, removed therefrom, and passed to the adjoining negative developing room. There are four negative developing machines, all of M-G-M-Simplex design. **Each of these machines is a separate unit, and completely independent of all the others.** From the mixing tank in the chemical room above to the air-supply used for drying the film, each machine is an independent unit. This naturally permits a great deal of freedom in the processing of the negative, allowing Mr. Nickolaus to get the best possible results no matter under what conditions the cinematographer may have been forced to work. No operation in one of these machines in any way depends on any of the others. The developer for each machine is mixed in its own mixing-tank which is directly connected to a circulating tank, which it feeds by gravity. The circulating tank is directly connected to its developing machine. The developer is circulated at the rate of fifteen gallons per minute; pumped into the bottom of the tank and overflowing at the top of the tank back into the circulating tank. The temperature of the developer is thermostatically controlled, with a double check through independent thermometers in the lower circulating-tank room and above in the developing-machine room; both thermometers take their readings from the same point—the circulating-tank. The temperature of the developer, through this automatic control, is not allowed to vary more than one quarter of a degree. Such precision of control, by the way, was unknown before the development of these new machines, and had been declared impossible by thermostatic engineers. The hypo is also on a circulating system, the silver being removed electrically, and the solution kept always at the proper strength and temperature. The hypo-mixing room, incidentally, is entirely separate from the developer-mixing rooms, ensuring absolute purity of solutions, uncontaminated by even the fumes of each other. The air feeding each machine is also a separate unit, making it possible to operate each machine quite separately as to solution, timing, and temperature.

From the negative-developing room, the negative is taken, in either the familiar fire-resisting cans or in fireproof hand-trucks to the printing-room above. From here the exposed positive is carried across the corridor to the positive-developing-machine room. This is practically a duplicate of the negative-developing-machine room, save that it houses a battery of eight developing-machines, making a total of twelve developing-machines for the plant. These machines are entirely separate units, each one being totally independent of the other eleven, therefore it is possible to operate these twelve machines with twelve different formulae, twelve different temperatures, and twelve different developing-speeds. It makes no difference to the plant whether one or all twelve machines are operating at the same time.

For the final stages of assembly, inspection, and polishing, the prints are returned to the lower floor, and travel in a straight line through these departments to the shipping room, where they are boxed and shipped to the exchanges. During all its transit between these departments, the film is kept either in cans or in the closed, steel hand-trucks. When in these departments, either before or after the work of that department has been performed, the film is kept in fireproof steel lockers, equipped with self-closing doors. Due to these precautions, the fire-hazard is reduced to the absolute minimum. According to Mr. Nickolaus, there is less than one-tenth as much film exposed at any one time in this plant than there is in many older laboratories of vastly smaller capacity.

Another novel feature of the plant is the lighting system. The building has been designed expressly with a view toward simplification of every possible detail. Therefore the lighting system has been so planned that there are no light-traps to be traversed in going from one department to the other. Instead, as you travel from one room to the other and along the corridors, you will observe that the illumination graduates from daylight to red, yellow, or green, according to the requirements of the particular type of film being handled at that point. It is therefore possible, for instance, to carry the rolls of exposed positive directly from the printing room to the positive developing room directly across the corridor, without the delays ordinarily caused by wrapping, or by traversing light-proof doorways.

The water supply from which the solutions are made up is from the laboratory's own water-conditioning plant, in which the water is softened and filtered, and then heated or cooled to the proper temperatures; both hot water, ice water, and water at normal temperature are available.

The ventilating and air-conditioning system is likewise worthy of mention. Too often in such plants the air in all

(Continued on Page 41)

Some Thoughts on Low-Key Lighting

by **CHARLES LANG, A. S. C.**

THE INTRODUCTION of Fast Film brought with it great benefits to all types of cameramen, and with it too, new problems to be surmounted. I doubt, however, if any class of cameramen received quite so many of either as have those of us who, either from preference or necessity, work with a low key of lighting. Here was a new film which can inherently make our work much simpler, but which also makes us adopt a new technique if we wish to utilize its greatest benefits.

In the first place, Fast Film allows us to use less light. In the second place, it is naturally inclined to yield soft gradations; I doubt if it is possible to get a really over-contrasty picture with it. But—and there's the rub—this very tendency to soft gradation which is a great advantage to the normal worker, can be the undoing of the unwary low-key worker. The reason for this is that whereas the normal worker, sometimes intentionally, sometimes unintentionally, almost invariably lights his set for quite a high degree of brilliance, the low-key worker, on the other hand, habitually works with extremely soft lightings, which, when coupled with the naturally soft characteristic of the new film, is very likely to become over-soft, and flat.

Therefore, while the normal worker can adapt his technique practically unchanged to the requirements of Fast Film—and even derive an appreciable degree of benefit from its inevitable softening effect, the extreme low-key worker must devise a new technique by which to combine the soft, low-key lightings which he desires and the softness inherent to Fast Film. In other words, the man who works in a medium or even a high key of lighting can light his set in the manner he is accustomed to, and then, with scarcely any change other than replacing the globes in his lighting units with others of lower wattage, be ready to use the new film with confidence—and in fact, get even better results than before. The low-key worker, on the contrary, can seldom do this, for if he does, he will find his work becoming gray and flat. Therefore, he must discover a new technique of lighting which will give him the effects he desires without the exaggerated softness which he does not desire.

It is easy enough to say this—but it is quite another thing to do it. For although we may proudly proclaim that lighting is an art, and is not therefore something to be done after a set fashion—by rote, as it were—most of us have a lamentable tendency to classify the situations most frequently met with, and then to always meet them in the same way. In a situation where one's whole lighting technique can be modified uniformly—as in the case of workers who habitually use a higher key of light—this is not entirely a disadvantage; but in our particular instance, where the only remedy is altering the technique specifically to fit the individual occasion, it is far from helpful.

Here is our problem: we habitually work with a soft, low-key lighting; we are given a new sensitive material which has an inherent tendency to softness, and which will, if we merely lower the overall intensity of our illumination, exaggerate that softness into flatness. How then are we going to utilize the economic and artistic advantages of this new film, and at the same time retain the soft but brilliant results which we desire?

The first step, naturally, is to take stock of what we have already at hand. The new film can be a considerable aid, for to offset its tendency to softness, it has several advantageous characteristics. First among these is its excellent color-separation. This represents a considerable improvement over the earlier emulsion. Second is its surprising faculty of penetrating shadows. Both of these can be turned to our advantage. If we can contrive to see to it that our sets are not monochromatic—that there is a pleasing visual color-contrast in them—the superior color-rendition of the new emulsion, which closely approximates that of our eyes, will help us to get depth and brilliance into our sets. The surprising sensitivity of the new film, as shown by the way it reaches into the shadows, will also help us, inasmuch as it will allow us to concentrate more on the highlights, knowing that if some light strays into the shadows, there will be just about the degree of soft detail that we want to have in them.

So far, so good; but we have not considered our people. And our main object is to make them stand out properly. Well, having our set taken care of, we can concentrate on the actors. To my mind, the best method is to light them in quite a higher key, and rather more contrastily than usual. This, combined with the characteristics of the film—its soft gradation, its unusual shadow-detail, and its superior color-rendition—should give us what we want: a soft, low-key picture, yet with plenty of brilliance to point the action. Even if we somewhat exaggerate the contrast of the lighting on the players, the softness of the film will likely tone it down to very nearly what we want.

Of course, each cinematographer uses his individual lights differently, but personally I have found that the "Lupe" is invaluable in lighting people in scenes where there are but two or three players, and making them stand out more brilliantly in scenes of an overall low key. A particular advantage of this lamp is the fact that it is mounted on a stand which must be a cousin to the microphone boom, for it permits you to place your Lupe well in the center of your picture, and fairly high up, at quite the most advantageous angle to play a fairly concentrated, yet softened, front light on the faces and forms of your players—and at the same time leaves the camera a clear field below. Such a light, so placed, will, in conjunction with a moderate amount of general front and modelling light (the former of low wattage, and well diffused), do a great deal toward giving the exact effect of low-key brilliance that we want.

While speaking of photography, I cannot let this opportunity go by without putting in a good word for the campaign which the A.S.C., under the direction of President Arnold, has instituted with regard to improving the quality of release prints. Leaving aside the economic questions which are naturally of even greater importance to the industry as a whole, the artistic and professional sides to the question are of great importance to the cameraman.

After all, it is by the release-print that our work stands or falls. For while the cameraman does not as a rule secure a great deal of personal recognition from the people outside the industry—who are the principle ones who see the release prints—it is his business to give to them the best representation of the stars and story that is within his power. In other words, the best photography. If the photography in the final product—the release print that is sold to the public—does not exhibit the cast and story of the picture as perfectly as is possible, the work of all the other artists on the picture (to say nothing of that of the cameraman) is wasted, in exactly the proportion that the release print falls below its potential best. Every moment of the cinematographer's working day is spent in striving to get the best possible picture on the negative. The master print used in the studio is of course the criterion by which he is judged by his immediate associates and by his employers, so he is personally safe enough regardless of the quality—or lack of it—in the release prints. But his job is not really complete

(Continued on Page 45)

Hal Hall SAYS

The Prize Contest

ELSEWHERE in this magazine will be found a two-page announcement of a contest that should be of particular interest to the serious Amateur movie maker. It is the announcement that this magazine is starting a contest for the amateur which should bring forth some mighty interesting 16 millimeter productions during the coming year.

A first prize of $500.00 will be given to the individual or club which enters the picture selected by the board of judges as the best. Three other prizes of $250.00, $150.00 and $100.00 will be given the next three winners.

With this monetary inducement, to say nothing of the credit that goes with the winning of any of the awards, the amateurs should put forth a lot of effort during the coming year to produce a winner. This is really a splendid opportunity and the wise amateurs will avail themselves of the chance to show their efforts in picture making. Barring the professional cinematographers from eligibility to compete makes it strictly an amateur affair, and there will be no chance for an experienced studio picture maker to step in with the advantage of his years of experience.

Incidentally, every amateur who wishes to improve his technique and who wants to keep abreast of the times in the technical side of making pictures, would do well not only to be a steady reader of this magazine, but, also to be certain he secures the Cinematographic Annual. The new annual which is due off the press shortly contains a wealth of information that every amateur should secure and study. It is really a magnificent text-book unlike any other volume on the market.

This writer's humble advice to the amateur is to read the American Cinematographer every month and study the contents of the annual. His technique will be improved.

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Good News

THE WORLD is getting brighter. Yes, sir.

The recent announcement by Universal Pictures that salary cuts which had been in effect were to be restored was one of the most encouraging bits of news of Hollywood during the past month. Coming just at a time when even the most optimistic of us were beginning to bow the head and think that things looked bad, it did a great deal to restore confidence in the rank and file of the picture industry. What a wonderful bit of news it will be when, after the depression has passed, we read an announcement that salaries are to be increased all along the line. And we are just darned fool enough to believe that is coming.

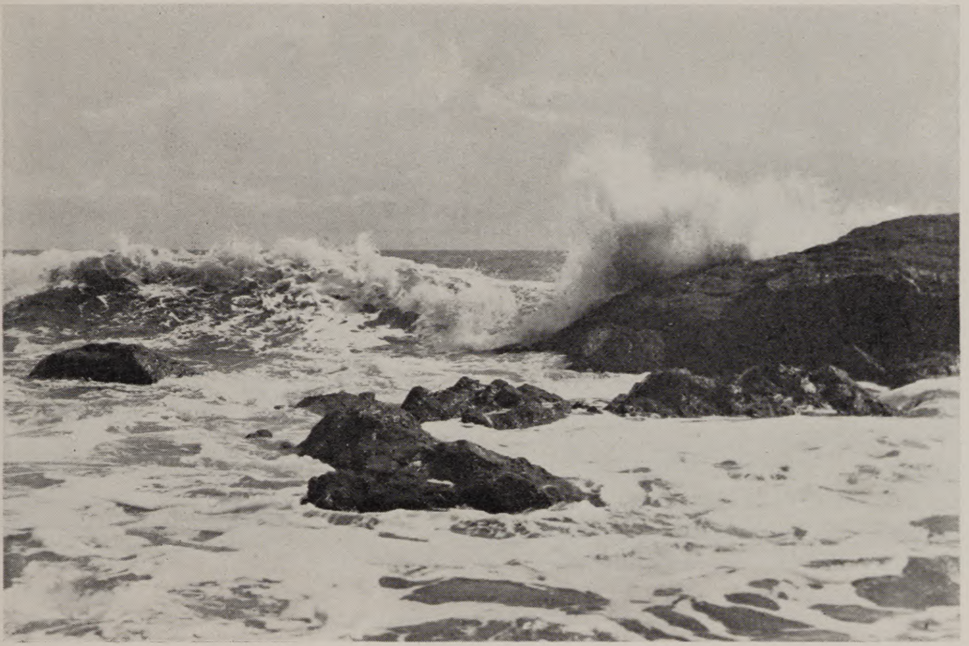
Advertising

WONDER why so many businessmen always cut down on their advertising campaign when business is bad—and then double it up as soon as they have so many orders they cannot fill them for six months. That is one of the problems we have been trying to solve for a long while. It would seem that the time to reach out for that extra bit of business is when the business is needed. Mr. Wrigley hasn't cut down on his chewing gum advertising—and we bet he has taken the biggest share of the sales of said product. Why not an advertisement in the American Cinematographer? It gets business for others—why not you?

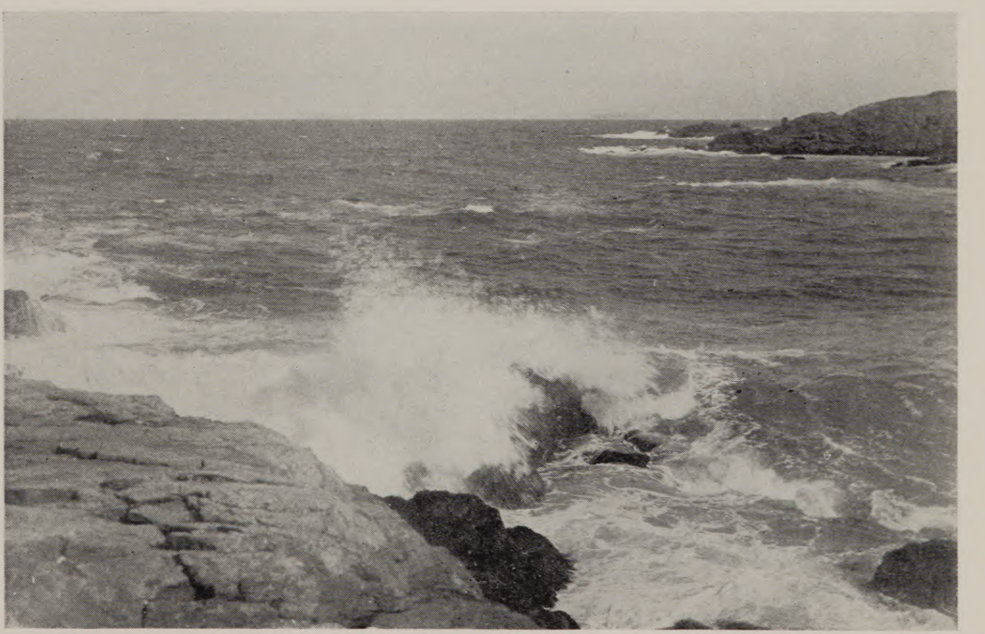
◆

Stray Thoughts

WONDER when the studio pass system for news gatherers will change . . . . Remember those good, old days when visitors were welcome in the studios . . . . and how they would go back home all pepped up over having seen certain players at work . . . . and how said visitors would go to see every picture after that in which said players appeared . . . . and would drag their friends along if only to have the chance to tell them how they had shaken hands with the star . . . . Oh, hum . . . . This writer used to drag in entire women's club membership on the set at the old Biograph studios in New York when he was the publicity dispenser there for First National . . . . and after a studio visit the women would drag the husbands to the theatre to see what they saw shot . . . . Wonderful weather out here in California right now . . . but you cannot eat the climate . . . so don't come out looking for a job unless your bank roll is a fat one that will stand a long siege. . . . There is many a sorry individual in Hollywood whose bank roll was too slender to stand up under the strain. . . . That information for those who write ye Editor to find out what chance they have to land a job in pictures. . . . Funny thing about this depression. . . . 75,000 people attended the football game between St. Mary's and the University of Southern California the other day. . . . Maybe they took their last dime to do it . . . can't figure it out. . . . Probably a record attendance will be on hand for the world series, too. . . . Perhaps all the money is being kept in the sock . . . anyway a few of these big games will get some cash in circulation . . . should help the stores, too, for the ladies will not want to go in last year's clothes. . . . Wouldn't it be nice if we could get a 75,000 attendance at a motion picture some day. . . . Volume two of the Cinematographic Annual is going to be a wow. . . . Don't fail to order yours. . . . That's all.



Roaring Waters **Karl A. Barleben**



Troubled Waters **Karl A. Barleben**

Clouds **Ned Van Buren, A.S.C.**

Desert Study **Ned Van Buren, A.S.C.**

Desert Study **Ned Van Buren, A.S.C.**

Desert Study **Ned Van Buren, A.S.C.**

Viewing Pictures Not Harmful to Eyes

VIEWING motion pictures entails less eyestrain than reading a book for a corresponding length of time, says Dr. Park Lewis, of Buffalo, N. Y., Vice-President of the National Society for the Prevention of Blindness, in the September issue of "The Sight-Saving Review" (published quarterly). Discussing "The Cinema and the Eye," Dr. Lewis says:

"Under normal physiological conditions, moving pictures do not cause serious eye fatigue. Since viewing moving pictures is distant vision, it does not demand so great an ocular effort as near vision—such as reading for a corresponding length of time. When eyestrain is caused by moving pictures it is due to one or another preventable condition, such as too prolonged fixing of the attention on a single point, or defective visual function, to a bad position of the observer in relation to the screen, to poor films, improper manipulation of the apparatus, to faulty projection or to improper illumination. With these reservations there is no more harm to the eyes in viewing the moving pictures with modern improved methods than there is in any other normal use of the eyes.

"In a recent inquiry which was instituted by Professor De Feo of Italy and presented to the League of Nations, opinions were secured from leading eye physicians throughout the world. The agreement was general in the views expressed. There are four elements to be considered in an inquiry as to whether moving pictures can in any degree be injurious to the eyes of the observer. These have to do with the quality of the film, with the arrangement of the lighting and the mechanism of the motion, and with the position of the observer. The final and important requirement is that his own eyes shall function normally.

"The first requisite is that the screen picture shall be clear and distinct. The captions and other descriptive matter accompanying the view should be sufficiently large to be easily read and not so redundant that the reading may not be easily completed before it disappears. That the film may be clearly shown depends on several elements. The first is the illumination. This should be adequate but not glaring. A glare is an excess of unfocused light; a sharp unshielded bundle of light rays coming from one side or the other or reflected from the screen itself, or from an unshaded light bulb in the dimness of the playhouse, will cause unnecessary discomfort.

"The arrangement of the scene itself so that glaring reflections are thrown back on the audience is now of infrequent occurrence, as the good producers are employing the assistance of the best artistic and illuminating engineering talent. It is better that the hall in which the picture is shown be not too dark. Strong contrasts of light and darkness are not pleasant and the details of the picture are brought out with even greater clearness in a twilight atmosphere if there are no distracting light sources visible. It is imperative that the film be run through with just the right degree of rapidity to make the images stand out and to move with the deliberation of actual living people.

"The beauty as well as the eye comfort of what might otherwise be an exquisite picture is often ruined by the rapidity with which it is shown. In the exhibition of an instructive picture recently shown in an educational institution of high standing a current of twenty-five instead of sixty cycles was used. This together with some fault in the motor mechanism caused a constant flickering of the light that gave the impression of a picture seen through falling water. The sensation produced was most uncomfortable and soon became fatiguing. The whole effect of the picture was thereby lost and the illusion destroyed.

"It is also important that films be retired from service after a reasonable amount of use. When they become spotted and cracked either from the heat of the lamp or from too long continued use, they give blurred and indistinct impressions and are neither attractive nor comfortable to look upon. In some of the cheaper picture houses they are used much too long.

"The position which the observer occupies in relation to the screen contributes very much to the eye comfort. If he is too close to the screen the pictures become blurred and confused, and defects are emphasized. The same effect is produced if the picture is viewed from too great an angle from one side or the other. Sometimes these nearer inferior seats are cheaper and are occupied by children whose eyes are more easily harmed by the resulting strain than would be the eyes of older people. Children should not be allowed to occupy these less desirable positions. The best place from which the picture can be viewed is near the center of the hall and directly in front of the screen.

"The final requirement, if the film is to be seen without discomfort, is that the eyes of the observer shall be functionally normal and of good visual acuity. When in the absence of any of the defects above mentioned—in the screen, in the evenness with which it is shown, in the illumination and in the position of the observer—there is still a consciousness of strain which is not occasional but persistent, it is safe to assume that there is present some ocular defect that should be corrected. It may be focal or muscular but it will be found that any other continuous use of the eyes will be equally discomforting. In that event, the eyes should be examined in order that the defect may be found and corrected and the prescribed glasses worn."

◆

Telephoto & Television Co. Acquires Telephoto Corp.

TELEPHOTO & Television Co., newly formed corporation, has taken over the Telephoto Corp., of 133 West 19th St., New York City, which company has been engaged in the manufacture of photo electric cells and television tubes for the past 18 months. It has been supplying Paramount, Universal Sound Systems, Sterling Motion Picture Co., Pulverman Corp., and many others in the sound field with its products, according to an announcement made by R. H. Herschman, secretary of the company.

It is the intention of the concern, Herschman states, to increase its manufacturing facilities for its product as the demand for same greatly exceeds its present facilities and the application for the uses of photo electric cells is increasing daily. The company is manufacturing photo electric cells of the Caesium Argon type which is said to be the latest type of photo cell and has an output many times that of the old Potassium type. In addition to the sound field these cells, he states are used in connection with photo engraving, color matching and smoke detection as well as many other uses.

The personnel of the company includes Nicholas Fabian, formerly connected with the Union Lamp Works and the Televical Co., R. H. Herschman, of the H. J. Jaeger Co., and Triad Manufacturing Co., and George Albert, formerly connected with the Jenkins Television Co., as engineer for the manufacture of television tubes.

◆

Protect Air Films

FRENCH flying men have taken steps to save all French films of aviation. The "Federation de l'Aeronautique," association of French aviators has decided to create a Cinema League, and to keep all copies of films concerning air events.

NOW THE CHAIN
IS COMPLETE

THE gray backing on Eastman *Super-sensitive* Panchromatic Negative completes the long chain of benefits resulting from the introduction of this ultra-speed film. Now the improvement in photographic quality that comes with this film is so pronounced that you simply cannot afford to overlook it. Study this amazing medium—introduced, improved, and sponsored by Eastman. Exhaust its possibilities, if you want to achieve all the beauty of which today's motion picture is capable. Eastman Kodak Company, Rochester, New York. (J. E. Brulatour, Inc., Distributors, New York, Chicago, Hollywood.)

EASTMAN *SUPER-SENSITIVE*
Panchromatic Negative, *Type 2*

KENT DOUGLASS and HELEN CHANDLER

in

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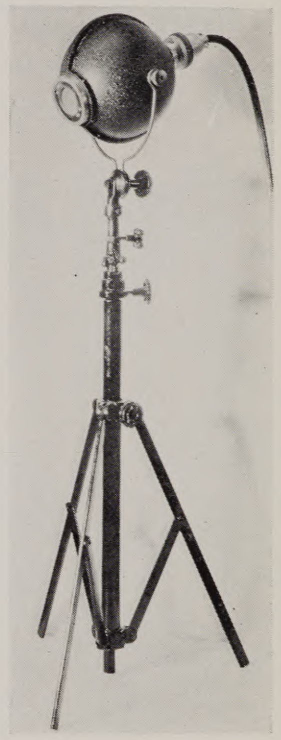
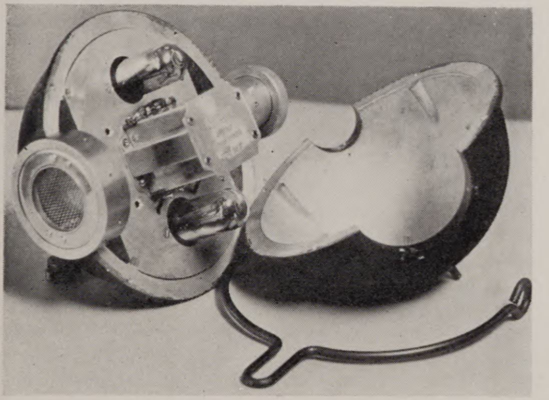


The Bomb Microphone
Ready for Use

◆



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The electrical characteristics are far superior to those of any other type of microphone.

◆

We have a new type optical light unit that takes the place of the ordinary slit. This optical unit has a definite focus. It is especially adapted for glow tube recording and gives double the amount of exposure. This is accomplished by a collecting surface on back of unit and projecting two lines of light that intersect at the focal point.

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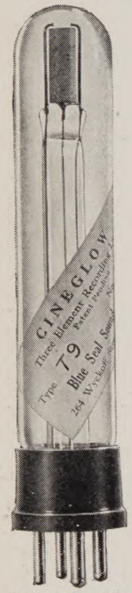

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Symposium on 16mm. Sound Film One Feature of S.M.P.E. Convention

AN EXTENSIVE symposium on the problems of 16 mm. sound films will be one of the features of the Fall Meeting of the Society of Motion Picture Engineers to be held at the New Ocean House, Swampscott, Massachusetts, October 5-8.

Some of the papers to be given in this symposium are:—"Description of the Educational Film Experiment in Washington," by Glenn Griswold of the Fox Film Corporation: "Advantages of 16 mm. Continuous Projectors," by J. L. Spence and J. F. Leventhal of the Akeley Camera Company; "16 mm. Optical Systems," by Allen Cook of Bausch and Lomb; "Advantages of 16 mm. Super Panchromatic Film for Educational and Medical Films," by Schwartz of the University of Rochester and Tuttle of Eastman Kodak; "16 mm. Sound on Film Dimensions," by R. T. May of R. C. A. Victor.

Many other papers dealing with many phases of the industry will be read during the convention. On Tuesday morning, Dr. H. E. Ives of Bell Telephone Laboratories will read the paper, "The Projection of Motion Pictures in Relief." H. E. Edgerton of the Massachusetts Institute of Technology will deliver a paper on "The High Speed Stroboscope." An open forum will be held among leading engineers on the subject of "Service to Producers."

On Tuesday afternoon three papers will be delivered on photographic subjects by experts of the Bureau of Standards.

Wednesday morning H. A. Frederick of Bell Telephone Laboratories will read a paper on "Vertical Cut Wax Recording." Another paper will be delivered regarding the new Bell & Howell Printer.

Thursday morning a paper will be given which describes in detail all of the many unique installations in the new Los Angeles Theatre, including a description of the vacuum tube light control and public address systems. Other papers to be read include "Theatre Design and Acoustic Treatment" by Ben Schlanger and V. A. Schlenker; "Resume of International Photographic Congress at Dresden," by Dr. S. E. Sheppard; and a paper by N. D. Golden of the Motion Picture Division of the Department of Commerce.

The Fall Meeting of the Society of Motion Picture Engineers will hold unusual interest this year because it will mark the society's 15th birthday. In addition to the customary scientific program, the four-day convention will give recognition to the anniversary.

Although recent meetings of the Society of Motion Picture Engineers have been held in New York, Washington, and Hollywood, the board of governors selected Swampscott for the Fall convention largely out of deference to the pioneer members of the society who wish especially to attend the 15th anniversary meeting. Some of this number of older men have expressed a preference for a meeting place such as Swampscott, where the pressure of outside business competes less with the society's gatherings.

Next spring's meeting, in the expectation of the board, will again be in a larger city.

◆

New York Section of Society of Motion Picture Engineers Held First Fall Meeting Recently

THE FIRST meeting of this season of the New York Section of the Society of Motion Picture Engineers was held at the Bell Telephone Laboratories, 463 West Street, Friday, September 25, at 7:30 P. M.

The following papers were read: "Screen Brightness" by S. K. Wolf of Electrical Research Products, Inc. and "A New System for Color Photography" by Mr. Frederick W. Hochstetter of the Hochstetter Research Laboratory, Pittsburgh, Pennsylvania. Mr. Wolf's paper was accompanied by experimental tests conducted in conjunction with the audience.

..In the Realm of Sound..

Reeves Introduces Optical Unit To Replace Recording Slit

IN THE previous issue of THE AMERICAN CINEMATOGRAPHER it was announced that Mr. Arthur Reeves, well known as a cinematographer and as one of the owners of the Hollywood Camera Exchange, had established a new firm known as the Hollywood Motion Picture Equipment Co., Ltd. and was specializing in the manufacture and distribution of recording apparatus and all types of studio and laboratory equipment. At that time it was stated that Mr. Reeves had perfected a new optical unit wherewith to replace the mechanical slit ordinarily used in glow-lamp recorders, and which had a guaranteed frequency range of 10,000 cycles. At that time, no particulars were available regarding this device, but they have since been imparted to representatives of this magazine.

The new Optical Recording Unit is made to replace the mechanical recording slit used in all glow-lamp recorders. It can be mounted in the recording aperture-plate of any glow-lamp recorder. It consists of a microscopically small lens, ground flat on the rear surface, and to a unique double-convex surface in front. This forward surface is such that in profile it is seen to come to a sharp point, while in a plan view this ridge, or point, extends the full width of the sound-track. The film is passed at about 0.001″ in front of this point, and is not in contact with it. The action of the unit is to collect the light emitted by the recording tube, and to focus it, in the form of a minute slit, 0.1″ long by 0.0007″ wide.

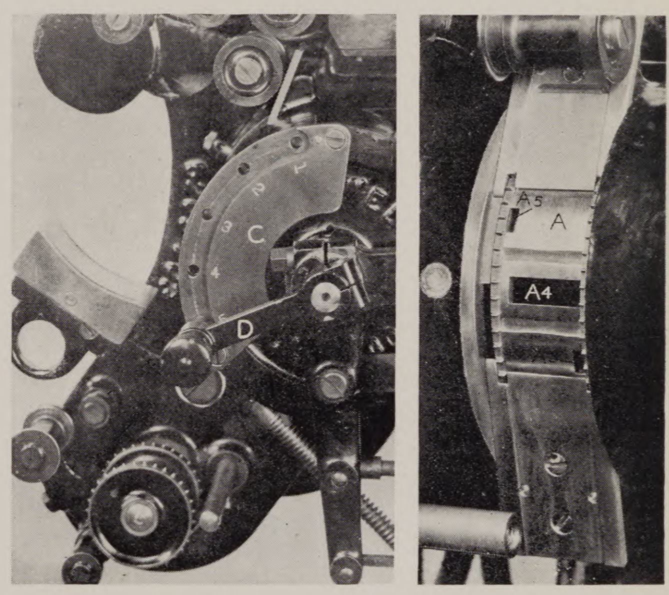
It is claimed that this method of optically creating the required slit produces an image of 100% greater brilliance, thereby increasing the overall possible gain, and making it less likely that an inexperienced recordist will underexpose the sound-track. Mr. Reeves also states that the new unit has in laboratory tests responded to frequencies as high as 25,000 cycles per second; a speed at which the magnitude of the sound-track striations is smaller than the grain of the film. In other words, the potential frequency range which can be recorded with this unit is very greatly in excess of the ranges of either present-day recording or reproducing circuits. Mr. Reeves positively guarantees, however, that with existing apparatus a range of 10,000 cycles may be recorded.

Due to its construction, the optical unit is far less likely to become clogged by dust than are mechanical units—a valuable consideration for commercial and industrial users. Furthermore, this unit, being of an optical rather than a mechanical nature, cannot infringe on any of the several patents controlling mechanical slits, and when used with properly licensed amplifiers should be a protection against patent litigation.

The new unit is not only available separately, but is incorporated in all of Mr. Reeves' new recording units, which, although developed from his well known Audio-Camex recorder, include such up to the minute developments as ground-noise eliminating circuits and the new Pentode amplifying tubes.

Another development just announced by Mr. Reeves is a new duralumin "Bomb" microphone. This device is not only of superior acoustic efficiency, but also of greater all around utility for commercial and newsreel use. It is rather strongly directional, and, due to its mounting, it makes it possible to record close shots of people speaking without the necessity of including the microphone in the picture, as it may be placed below the speaker, and swung upward, in which position it is quite as effective as though it were slung above the speaker on a boom, after the manner of studio recorders—a technique which is rarely possible to the industrial or news worker, due to the lack of portability of most microphone booms.

Bell & Howell Five-Way Sound Printing Attachment



(A) The drum, in which are cut five openings—one full aperture, one each for sound and picture printing for operating the negative forward or reverse; (A3) Sound aperture—reverse run; (A4) Picture aperture—forward run; (A5) Sound aperture—forward run; (C-1-2-3-4-5) Index dial: (D) Lever and pin which move drum to opening indicated on Index dial.

THE BELL & HOWELL COMPANY is making an alternative sound printing attachment which can be fitted to this company's Model "D" Continuous 35 mm. Printer. Instead of having movable masks at the aperture, the five-way attachment utilizes a 220° drum in which are cut five openings. Four of the openings are arranged to take care of printing the sound and picture areas respectively of the negative, whether the negative is running forward or backward. The fifth opening is arranged to print ordinary "silent" negatives. In other words, instead of arranging masks to give the various combinations of aperture openings, the five-way wheel is turned to the correct openings. These openings are indexed to facilitate the operator using them for sound and picture area printing, in correct sequence.

◆

Armoured Film Successful

THE "ARMOURED FILM," which is said to increase life of prints and reduce wear on sprocket holes and emulsion surface of film sufficiently to add at least 100 per cent to the life of the film and maintain "first run" quality, is reported meeting with good results in tests.

The process is the development of the Armoured Films, Ltd., of London, and will be placed on the market through its New York office located in the Chanin building. English and United States patents were developed and acquired by the London company and the experimental machines were manufactured by the Precision Engineering Co.

Laboratory Department

Conducted by **EMERY HUSE, A. S. C.**

Principles of Sensitometry and Their Practical Application

Part 6

IT WILL be seen from the foregoing article that there were several standards of intensity, all of which were units which depended upon the maintenance of a flame. Also these flame standards were not wholly satisfactory because of the difficulty in maintaining with high precision the unit of luminous intensity. In 1909 the standardizing laboratories of Great Britain, France and the United States reached the agreement that the unit of luminous intensity, which is called the **international candle**, be maintained by a group of carefully standardized incandescent electric lamps. The international candle is a unit of arbitrarily chosen magnitude which is maintained by means of these carefully preserved groups of standardized incandescent lamps. Undoubtedly where the highest precision is required carefully standardized electric lamps are superior to any other form of illumination for sensitometric work. It is necessary that these electric standards be operated under very carefully controlled conditions because it is of utmost importance that precision be maintained from the standpoint of both intensity and spectral composition. The temperature at which an incandescent filament operates is of course dependent upon the voltage. Since the quality of radiation given off by an incandescent solid is dependent upon the temperature of that material, it follows that the spectral composition of the radiation emitted by an incandescent lamp depends upon the impressed voltage or upon the current flowing through the lamp. In using incandescent lamps as standards of photographic intensity it is necessary, therefore, that they be standardized for the temperature at which they operate. This temperature is called the "color temperature" and is defined as follows: "The color temperature of a particular source has been defined as the temperature of a 'black body' which has the same distribution of energy in the visible spectrum as the source under consideration." This term color temperature is of considerable convenience in specifying the spectral composition of radiation emitted by any light source which can be matched by a "black body" at some temperature. By a black body, or total radiator, is meant a body the surface of which will entirely absorb all radiation which falls upon it. Since such a body would absorb all light it would look perfectly black at ordinary temperatures and hence it is called a perfectly black body. The effective equivalent color temperature of sunlight at the earth's surface is approximately 5400°K (absolute). Many of the modern incandescent lamps operate at filament temperatures as high as 3100°K, but it is impossible to make satisfactory standards operating at that temperature. The lamps actually used by the national standardizing bureaus for the maintenance of the international candle operate at filament temperatures but slightly in excess of 2360°K., which is the color temperature of acetylene. It is obvious then that even with standardized electric lamps it is quite impossible to obtain radiation even approximating in quality to that of sunlight.

We will not at this point enter into a mathematical treatise of this subject. It is hardly necessary in a paper of this type. As a matter of interest Table I is presented in which are given the color temperatures for the various standards of luminous intensity which have at various times been used as standard sources in photographic sensitometry.

Table 1

Source	**Color Temperature** (°K)
Standard British Candle	1930
Hefner	1880
Harcourt Pentane	1920
Acetylene (E. K. Standard)	2360
Incandescent Carbon (4 w. p. c.)	2080
Incandescent Tungsten (1.25 w. p. c.)	2400

The international candle is maintained in terms of standardized carbon and tungsten lamps and it will be noted that the color temperature in which this unit is maintained is not over 2400°K. and, as previously stated, it is not possible to make satisfactory standard lamps with good precision and life characteristics at filament temperatures much above 2500°K. In Table 2 are shown color temperatures of various sources which are used in practical photography.

Table 2

Source	**Color Temperature** (°K)
Sunlight (mean noon)	5400
Skylight	1200 to 18,000
Crater of Carbon Arc (ordinary hard cord)	4000
White Flame Carbon Arc	5000
High Intensity Carbon Arc (Sun Arc)	5500
Incandescent Tungsten, 10.0 lumens/watt	2500
Incandescent Tungsten, 20.3 lumens/watt	2985
Incandescent Tungsten, 24.2 lumens/watt	3175
Incandescent Tungsten, 27.3 lumens/watt	3220

It will be noted that these are of much higher color temperatures than those which can be attained in satisfactory standards of luminous intensity.

◆

Copper Oxide Rectifier Introduced By General Electric

A COPPER-OXIDE rectifier, built to improve the growing use of full vision screens, wider films and colored motion pictures, and said to be the first copper-oxide rectifier to be introduced for the motion picture field, has been announced by the General Electric Co.

One of the outstanding features claimed of the new rectifier is that it may be used either for a high-intensity projector or for one or two low-intensity projectors. Used with a high intensity projector, it supplies 60 to 70 amperes of arc current. Operated with one or two low-intensity projectors, each of the two sections supplies 30 to 35 amperes.

The new rectifier makes use of the copper-oxide disc principle of rectification, which is said to give it durability, long life and freedom from maintenance expense. A system of forced ventilation, using radiating fins and two small electric blowers, forces a steady stream of cool air over the copper-oxide elements and maintains a temperature, it is declared, within ten degrees of the surrounding air temperature. No objectionable noise is made by the rectifier, enabling it to be placed in the projection room. Installation and operation of the unit are simple. One switch starts or stops the rectifier instantly, without the usual "starting" or "warming up" period, the company declares.

Hollywood Callboard

As this issue goes to press the following production activities were under way in the Hollywood Studios.

PRODUCER and TITLE	CAST	DIRECTOR and ASSISTANTS	CAMERA and SOUND
COLUMBIA "Unwanted"	Russell Hopton, Greta Granstedt, Dorothy Sebastian, Ian Keith, Lloyd Hughes.	Louis King	Joe Walker, A.S.C.
FOX "Over the Hill"	Mae Marsh, James Dunn, Sally Eilers, James Kirkwood.	Henry King	John Seitz, A.S.C.
"Surrender"	Ralph Morgan, Warner Baxter.	William K. Howard	James Howe
"Cheating"	John Boles, Linda Watkins, Hedda Hopper.	Kenneth MacKenna	Charles Clark, A.S.C.
"While Paris Sleeps"	Victor McLaglen, Helen Mack.	Allan Dwan	Unassigned
MGM "The Mirage"	Joan Crawford, Clark Gable, Wallace Ford, Skeets Gallagher.	Clarence Brown Chas. Dorian	Oliver Marsh, A.S.C.
"Private Lives"	Norma Shearer, Robert Montgomery, Reginald Denny, Una Merkel, Jean Hersholt	Sidney Franklin	Ray Binger Fred Morgan
MONOGRAM "Land of Wanted Men"	Bill Cody, Sheila Manners, Frank Lackteen.	Harry Fraser	Archie Stout
"Two Fisted Justice"	Tom Tyler, Barbara Weeks, Kit Guard.	G. A. Durlam	Faxon Deane
PARAMOUNT "Sooky"	Jackie Cooper, Robert Coogan, Jackie Searl, Willard Robinson.	Norman Taurog Arthur Jacobson	Arthur Todd
"Working Girls"	Judith Wood, Charles "Buddy" Rogers, Dorothy Hall.	Dorothy Arzner William Kaplan	Harry Fishbeck
"The False Madonna"	William Boyd, Kay Francis.	Stuart Walker Jack Mintz	Henry Sharp, A.S.C.
"Dr. Jekyll and Mr. Hyde"	Fredric March, Miriam Hopkins, Rose Hobart.	Rouben Mamoulian Robert Hill	Karl Struss, A.S.C.
"The Man I Killed"	Phillips Holmes, Nancy Carroll, Tom Douglass, Lucien Littlefield, Lionel Barrymore.	Ernst Lubitsch	Victor Milner, A.S.C.
"Ladies of the Big House"	Sylvia Sidney.	Louis Gasnier Max Marcin	David Abel, A.S.C. George Yohalem
"Husbands Holiday"	Clive Brook, Vivienne Osborne, Harry Bannister, Charlie Ruggles.	Robert Milton Charles Barton	Chas. Rosher, A.S.C.
RKO-PATHE "Suicide Fleet"	Bill Boyd, Robert Armstrong, James Gleason.	Albert Rogell Jay Marchand	Sol Polito, A.S.C. D. Cutler H. Stein
"A Woman Commands"	Pola Negri, Basil Rathbone, Roland Young.	Paul Stein	Hal Mohr, A.S.C.
RKO-RADIO "Peach O'Reno"	Robert Woolsey, Bert Wheeler, Lita Chevret, Dorothy Lee.	William Seiter	Unassigned
UNITED ARTISTS "Arrowsmith"	Ronald Colman, Helen Hayes, A. E. Anson.	John Ford	Ray June, A.S.C.
"Sky Devils"	Spencer Tracy, William Boyd, George Cooper, Ann Dvorak.	Edw. A. Sutherland Bill Tummell	Tony Gaudio, A.S.C.
"Cock o' the Air"	Billie Dove, Chester Morris, Matt Moore, Walter Catlett, Luis Alberni.	Tom Buckingham Nate Watt	Lucien Andriot
"Tonight or Never"	Gloria Swanson, Robert Greig, Ferdinand Gottschalk, Warburton Gamble, Greta Meyer, Alison Skipworth.	Mervyn LeRoy	Gregg Toland
"Greeks Had a Word For It"	Ina Claire, Joan Blondell, Madge Evans, Lowell Sherman.	Lowell Sherman	George Barnes
UNIVERSAL "Frankenstein"	Colin Clive, Edward Van Sloan, Dwight Frye, Frederick Kerr, Mae Clarke.	James Whale Joe McDonough	Arthur Edeson, A.S.C.
"Saint Johnson"	Walter Huston, Lois Wilson, Harry Carey, Ralph Ince, Russell Hopton.	Ed Cahn	Unassigned
"Nice Women"	Sidney Fox, Frances Dee, Alan Mowbray.	Edwin H. Knopf	Unassigned
WARNERS-FIRST-NATIONAL "Taxi Please"	James Cagney, Joan Blondell, Ralf Harolde, Geo. E. Stone, Guy Kibbee, Leslie Fenton, Dorothy Burgess, Ray Cooke, Leila Bennett.	Roy Del Ruth Wm. Cannon	James Van Trees, A.S.C.
"Her Majesty, Love"	Marilyn Miller, Ben Lyon, W. C. Fields, Leon Errol, Chester Conklin, Ruth Hall.	William Dieterle Al Alborn	Bob Kurrle

THE FIRST ENTRIES in the $175.00 prize picture contest of the American Cinematographer are seen in the pictorial section of this issue on pages 17, 18 and 19.

THIS CONTEST covers a period of twelve months. A prize of $100.00 will be given for the picture selected by the judges as the best picture appearing in the pictorial section in the twelve months, beginning with the present issue. $50.00 for second prize, and $25.00 for third award.

ANYONE IS ELIGIBLE to compete for these prizes, providing he or she is a bona fide subscriber to this magazine. If you are not a subscriber and wish to submit pictures for this prize section, just mail your check for $3.00 for a year's subscription and you will be eligible to compete. You may submit as many pictures as you wish. However, if in the opinion of the editor your pictures do not have sufficient merit, this magazine will not print them, and they will be returned to you.

125 Theatres Closed in Philippine Islands

THE WORLD-WIDE business depression has affected the motion picture theaters in the Philippine Islands. A year ago there were 300 picture houses, while today there are but 175 in operation. Seventy of these are wired, the Manila district having 33 of them. Not even the first run theaters are now making money, according to the proprietors. The largest circuit of theaters in the islands is controlled by the Lyric Film Exchange, which has four houses in Manila and forty in the provinces. It also acts as agent for Paramount, Warner Bros.-First National, and United Artists.

10 British Film Studios Use Photophone Recording

TEN BRITISH studios are now using RCA Photophone recording system, it is announced by Van Ness Philip, manager of the Foreign department. The studios include British International, British Lion, Gainsborough, Gaumont, First National Pathe, Mansfield Markham, Associated Radio Pictures (Dean), Teddington (Warner Bros.), Twickenham, Nettlefold. With 14 pictures as the peak in production for the summer period, 12 were recorded by Photophone system, says Philip.

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Ten Reel Commercial

PAT DOWLING and Hobart Brownell of Metropolitan Industrial Pictures have been engaged to supervise and direct production of what will be the largest industrial production made to date, a ten reel talking picture, "MORE POWER TO YOU", which is to be produced for Dodge Motor Car Company by Educational Talking Pictures Company, Ltd.

Production of the picture will be at Metropolitan Sound Studios which is owned and operated by Educational Talking Pictures Company. Arrangements for the production were made by N. E. Wilding of Detroit, representative of Educational in the industrial field in that territory.

The picture will include a cast of thirty professional actors and the action will take place in more than fifty sets and locations. "MORE POWER TO YOU" is to be an organization film portraying various phases of retail automobile dealers' activities and sales methods relating to the Dodge and Plymouth lines.

◆

Photophone Turning Out New Portable Sound Unit

LARGE scale manufacture of an entirely new portable sound reproducing unit, designed primarily for the educational and industrial fields, has been started by RCA Photophone.

The entire outfit comprises a projection machine, an amplifier, a loud speaker and a carry-case for film which have an aggregate weight of slightly over 200 pounds. The equipment is A.C.-operated from an outlet of 105 to 125 volts, either 50 or 60 cycle, single phase power source.

The projector is designed to accommodate a 1,000-foot standard reel, a standard series I theater projection lens with limits of focal lengths of 3¾ inches to 8 inches, a one-thousand watt, 110 volt, pre-focused base projection lamp, a 10 volt, 7½ ampere exciter lamp and a UX 868 photo-electric cell.

Standard 35 mm. film is used and a picture about 8 x 10 fet in dimensions is obtained upon the screen from a throw of 75 feet, the company declares.

◆

Japan Has 1,270 Film Theatres

TOKYO—According to a survey by the "Osaka Mainichi," picture theaters in Japan have increased at the rate of 40 a year since 1896, when films were first introduced in the country. Today Japan has 1,270 picture theaters. Tokyo and Osaka each have ten with sound.

◆

New Amplifier Tubes Offered

TWO NEW tubes known as the 242 amplifier, designed to replace the 211E and said to consist of a long life thousand hour tungsten filament, and the 205D intermediate amplifier said to have an anchored construction to assure noise free projection, is being offered by the Duovac Radio Tube Corp., of Brooklyn, New York.

◆

Wiring Saturation in 1932

WIRING of English theaters will reach the saturation point about the end of next year, at which time the 1,100 houses now remaining silent will either have been equipped for sound or closed, it is stated by T. Drew, sales chief of Western Electric. By the end of the present year only a little more than 600 silent theaters are expected to be open in this country, with probably half of these being worthless as talkie houses, says Drew. At the present rate of progress, equipping of all the country's active theaters will be completed by England considerably before the U. S. achieves that end, according to Drew. After that, replacements and servicing will become the chief activities of W. E.

Twelve Expeditions to Film "Magic Carpet" Series

PLANS have been completed by Truman H. Talley, general manager of Fox Movietone News, for the production of the second series of 26 releases for "The Magic Carpet of Movietone." Twelve expeditions have been arranged by Louis de Rochemont, short subject editor, to cover parts of the world not already reached by staff units in New York, London, Berlin, Sydney and Paris.

One of the units, already in Alaska, is headed by Eric Mayell. Another, which is in charge of Jack Lieb, is in Africa gathering material for three releases. The Lieb unit with Carl Bjerre, sound engineer is working up from Cape Town through the Union of South Africa. Northern Africa is being covered by crews working out of the Paris office. Richard Maedler and Lewis Tappan have secured material for the "Magic Carpet" in the Sudan, Ethiopia and the Belgian Congo. Ariel Varges, pioneer newsreel man, is securing film in the Orient and the islands of northern Japan. James McInnis and William K. Hawk are in India and will tour the Dutch East Indies.

Crews, under the supervision of Harry Lawrenson, are working in Australia, New Zealand and the Malay Archipelago. Ben Miggins, European director, and Russell Muth, in charge of the Paris office, have sent units to Scandinavia, Austria and the Slavish countries. Charles Herbert and a camera and sound crew will shortly start a round-the-world trip in search of material. Canadian and South American territories are also covered by units.

Working titles of the next releases are: "Back to Erin," "City in the Clouds," "In Old Mexico," "A Dancing World," "Byways of England," "An Alpine Playground," "Cherry Blossom Time," "Children of the Desert," "Here Comes the Circus," "Pearls of the Caribbean," "Across the Andes," "Over the Bounding Main," "Sunny Italy," "Paths in Palestine," "Wonders of the World," "Land of the Storks," "Conquering the Sky," "God's Frozen Children," "On the Road to Mandalay," "A Journey to Java," "The Iceberg Patrol," "Off the Grand Banks" and "Along the Amazon."

◆

Free List of Medical Motion Pictures

THE EXTENT to which motion pictures are already serving the medical profession, as well as lay audiences interested in the study of physiology and health and hygiene subjects, is revealed by an interesting survey, entitled "Medical Films and their Sources," prepared for free distribution by Wm. F. Kruse of the Educational Department of the Bell & Howell Company.

Over 450 titles comprising 538 reels of 16 mm. safety film are listed and described. Definite information is also given as to where the films may be obtained, with the rental or purchase price asked by their owners or distributors. Separate classifications list medical-surgical films intended for professional use exclusively, health and hygiene films for lay audiences, and similar films obtainable from university extension divisions and intended primarily for school use. A special supplement lists dental and oral hygiene films.

Copies of this survey may be obtained, without charge, by any medical, surgical, dental, or similar school or society; by hospitals and public health authorities; by any active practitioner; or by educators or school administrators interested in the use of motion pictures in the field of health and hygiene. Applications should be made direct to Educational Department, Bell & Howell Company, 1801 Larchmont Avenue, Chicago.

Don't Forget
Out In November
Volume 2
Cinematographic Annual

Amateur Movie Making

by WILLIAM STULL, A. S. C.

PROMINENT among the questions which a professional cinematographer is almost certain to be asked every time he encounters one or more of his amateur confreres is, "How do they make animated cartoons?" Immediately it will be followed by, "and can I make them, too?"

Mickey, Felix & Co.

Theoretically, anyone who owns a motion picture camera can make animated cartoons—provided, of course, that he can draw, or command the services of somebody else who can. In actual practice, he can do it only if he has a camera which can be made to expose but a single frame at a time, and stop immediately thereafter (without fogging the next frame), and repeat the performance with adequately long intervals between the exposures.

An animated cartoon is, after all, only a moving picture. But instead of being, as a conventional motion picture is, a series of still photographs, made successively, of a moving object or scene, an animated cartoon is a series of still photographs, made successively, of a series of drawings, each of which has in it such slight differences as will cause the result, when projected in the usual manner, to give the illusion of movement. In other words, the animated cartoonist must draw an actual picture of each frame of his film, and then photograph those pictures, one frame to the picture, on cine film.

This sounds like a great deal of work. It is! The next time that you sit comfortably in your theatre and enjoy the antics of Mickey Mouse, just remember that to produce that 600 or 800 feet of film, from 3,000 to 6,000 **or more** individual drawings had to be made—and photographed in the right order. Then marvel at the fact Mr. Disney produces on the average two complete Mickey Mouse films and as many "Silly Symphonies"—every month.

Short Cuts

But of course this sort of volume production could not be possible were it not that many short-cuts are possible. These short-cuts have chiefly to do with making it unnecessary to make complete drawings for every frame.

Let us imagine a simple scene. Mickey, or Martin, or Matthew Ethelbert—or whatever we may choose to name our character—is standing in the middle of a street. He is going to raise his hand to his head in order to lift his hat to Minnie, or Martha, or Matilda (or what have you). Now, it is going to take a dozen or more drawings to make him do this—and we don't at all like the idea of drawing Mickey, his hat, the street, and everything else in the picture a dozen times just to make him be polite to a lady. So what do we do?

We study the picture. What is going to have to move, and what is going to remain motionless throughout our dozen drawings? Let's see: the street certainly won't move; neither will Mickey, except for his hand and his hat. Therefore, can't we make one drawing do for Mickey (all but his hand), the street, 'n'everything? There's an idea! But how can we do it? Simple enough! We draw the street on a piece of paper, using India ink. Then we draw Mickey on a thin piece of transparent celluloid—also using India ink. But if we put Mickey on top of the picture of the street, some of the background may possibly show through Mickey's white portions, which would be very embarrassing. So we carefully turn Mickey over, and apply Chinese White to the back of those white portions which are likely to be embarrassed. Next, we make the appropriate drawings of Mickey's arm in the different positions it will occupy between its starting-point and his hat. These, too, are made on celluloid—"cells" to you, for short—and, if necessary, also backed with Chinese White. Then it will be simple enough to place Mickey (on cell) on top of the street (on paper), and Mickey's arm (on cell), on top of both, and photograph them, changing only the arm between movements.

But hold on! If we aren't terribly careful, we won't be able to keep them all "in register"—we'll be having the street doing acrobatics all over the place, while Mickey floats serenely around, and his arm waggles up and down somewhere else entirely, quite unattached to its proper body. That will never do! So we get around this by putting two pins in our drawing board, and two more in exactly corresponding places in our photographing-stand. Then it is simple enough to have our paper and cells all punched with holes to fit onto these pins, just as the sheets in a loose-leaf notebook fit onto the rings in the book. And another major catastrophe is averted.

But now, suppose we have another scene: Mickey is walking along the street, and we are following him. Can't we take some short-cut here? Of course we can. In this case, the effect that we want to create is that of Mickey and the camera moving along, and the background remaining stationary. Well, can't we get the same result by keeping Mickey stationary (the camera can't move, anyway!) and letting the street move along behind him? Of course; let's try it. We draw the background on a long strip of paper, with many closely spaced pairs of registering-pin holes at the top. We draw Mickey again on a cell—all but the legs. Then we draw the various positions of his legs on another series of cells. And we can proceed to photograph them as we did before, except that we must remember to move the background one pair of holes each time.

Now, of course, these ideas can be elaborated to take care of several simultaneous movements, such as arm-movement, leg-movement, and facial expressions; any combination, in fact, can be secured by adding cells. Naturally, there is a limit to the number of celluloids that we can interpose between our paper backing and the lens before the picture begins to go gray; I have found that five cells are as many as can generally be used successfully. Fewer than this are always desirable. The same cells, by the way, can be washed and used over and over again. Mr. Disney uses his a year, and then only changes them "for safety."

The Gentle Art of Animation

It is easy enough to talk about "stages of movement," or "phases of animation"—but it is quite another thing to actually draw them. Obviously, one can't draw out every possible position between the extremes of a movement; just as obviously, one can't suppress too many of these positions. If we don't have enough of them, the action will be too fast and jerky; if we have too many, it will be too slow. The business of striking the happy medium between these two is called "Animation." There's really quite a trick to it, but practice (including, as it naturally will, lots of mistakes) if it won't in this case make perfect, will at least develop some of that knack. A very helpful—in fact, indispensable—device, is what is known as an animating table. This is simply a drawing-board with the center cut out, and replaced by a pane of ground or opal glass, under which is a light. The drawing is made on this, with the light turned off. Then the next drawing is made on top of this, with the light on; a great deal of the previous drawing can often be traced, and the proper position is much more easily ascertained. If, when the second drawing is completed, you are in doubt as to whether it is right or not, it is easy to turn the light off, and, viewing both drawings by reflected light, flip them back and forth: if the movement seems to be correct, you can be sure that it will photograph properly.

The important point in animated cartooning is, of course, making the drawings funny and simple, and in getting the animation right. The funnier the drawing, the better—but it must always be simple: just as few lines and masses as is possible. Stay away from delicate half-tones. They're hard to match. Make your action incongruous: it is funnier. I recall one sequence in an early Disney cartoon which illustrates this very well. A cow ate a daisy. Nothing particularly funny in that, is there? But suppose the cow stalks the daisy as a cat stalks a mouse, crawling toward it on her belly, with tail switching sinuously. Then suppose that the daisy pirouettes off, like a ballet-dancer, and finally runs up a tree—followed by Mme. Cow, who finally catches her prey, and lies comfortably on a limb, munching away. Properly drawn, such action packs a big laugh. . . . There is an old saying among animators that one doesn't necessarily **have** to be crazy to be a good animated cartoonist—but it is a big help!

Photographing the Drawings

Now let's be technical. How shall we photograph these drawings? In the first place, we will need a camera that is either capable of being worked one frame at a time, or that is equipped with a hand-crank attachment. If the latter, we must have some means of turning the shaft just sufficiently to expose one frame and close the shutter each time. This is simple enough, for a special shaft can be fitted in place of the crank, and mounted with a gear or pulley arrangement so that when we turn another crank around once, the camera shaft will revolve through the proper arc. If it is an 8-pictures-per-turn movement, ⅛ turn; if it is the so-called "trick movement" with which some few 16mm. cameras are equipped, one full turn. Then, of course, there must be some device for preventing the crank from turning backward, and fogging our film, and, if you want real convenience, a revolution counter to show how many frames have been exposed. For the best, professional-quality work, a motor drive should be attached to this gearing, through a clutch, so that we make our exposure automatically by pushing a button. This is a big time-saver, and ensures perfect uniformity in exposure.

The camera should be mounted in one place, preferably pointing down. Below it, at a fixed distance, should be the support for the cartoon. It is best—though not imperative—to have this a large table, so that the drawings of a series of movements can be spread over it for handy use. The actual ones being photographed should be mounted in a sort of frame. At the bottom, a flat board, equipped with the registering pins. On these, the drawings. Over them, a hinged cover, with a plate-glass window through which the drawing is photographed. This window is important, for it will hold the cells flat. Incidentally, if the cells are too thin, they wrinkle; on the other hand, if they are too thick, they are less transparent, and only one or two can be used. The lighting should come from two sources, placed above the board, and equidistant from the center of the picture. They should give a soft, uniform light, and one that is neither hot nor tiring to the eyes. Therefore I believe that, for professional results, the Cooper-Hewitt Mercury-vapor tubes are the best (use the short "M" tubes—the others are unnecessarily long); for ordinary amateur work, however, incandescent globes, equipped with tracing-cloth diffusers, are quite satisfactory, even if they are hot to work under. Positive film is by long odds the best, as it is not only cheaper, but gives contrastier results. Delicate gradations are not wanted, and, since you are using only black, white, and gray in your subject, color-correction is not necessary. Positive film is plenty fast enough; in fact, you will probably have to stop down somewhat.

More Animations

But cartoons are by no means the only subjects for this sort of work. There are endless possibilities in the way of animated dolls and models. The Kodak "Children's Cinegraphs" are examples of this: Chip, the Wooden Man, and his playmates are made this way. In this case, of course, the camera is horizontal, and we must make miniature sets. This type of work can give a great deal of valuable experience in lighting, by the way, which can in some measure be applied to the photography of full-size subjects. If our dolls or models are in monochrome, we may still use positive film; if they are not, negative or reversal stock. Super-Sensitive is very useful here, as we can get a lot of lighting effects with nothing but very weak household bulbs.

All in all, animation is a most fascinating bypath; but, a word of caution—if you haven't the patience of Job, don't try it!

◆

New 1 Inch F 3.5 Lens and Waist Level Viewfinder Are Announced For Filmo Cameras

TWO INTERESTING new accessories for Filmo 70 cameras are announced by Bell & Howell. One is a new Cooke 1 inch F 3.5 focusing mount lens, and the other a waist level viewfinder.

The new lens is radically different from the former focusing mount lens for this type of camera. The principal feature is that the focusing and diaphragm dials project out sufficiently into the field of the finder to enable the user to observe his focusing graduations as well as the diaphragm graduations when looking through the finder tube.

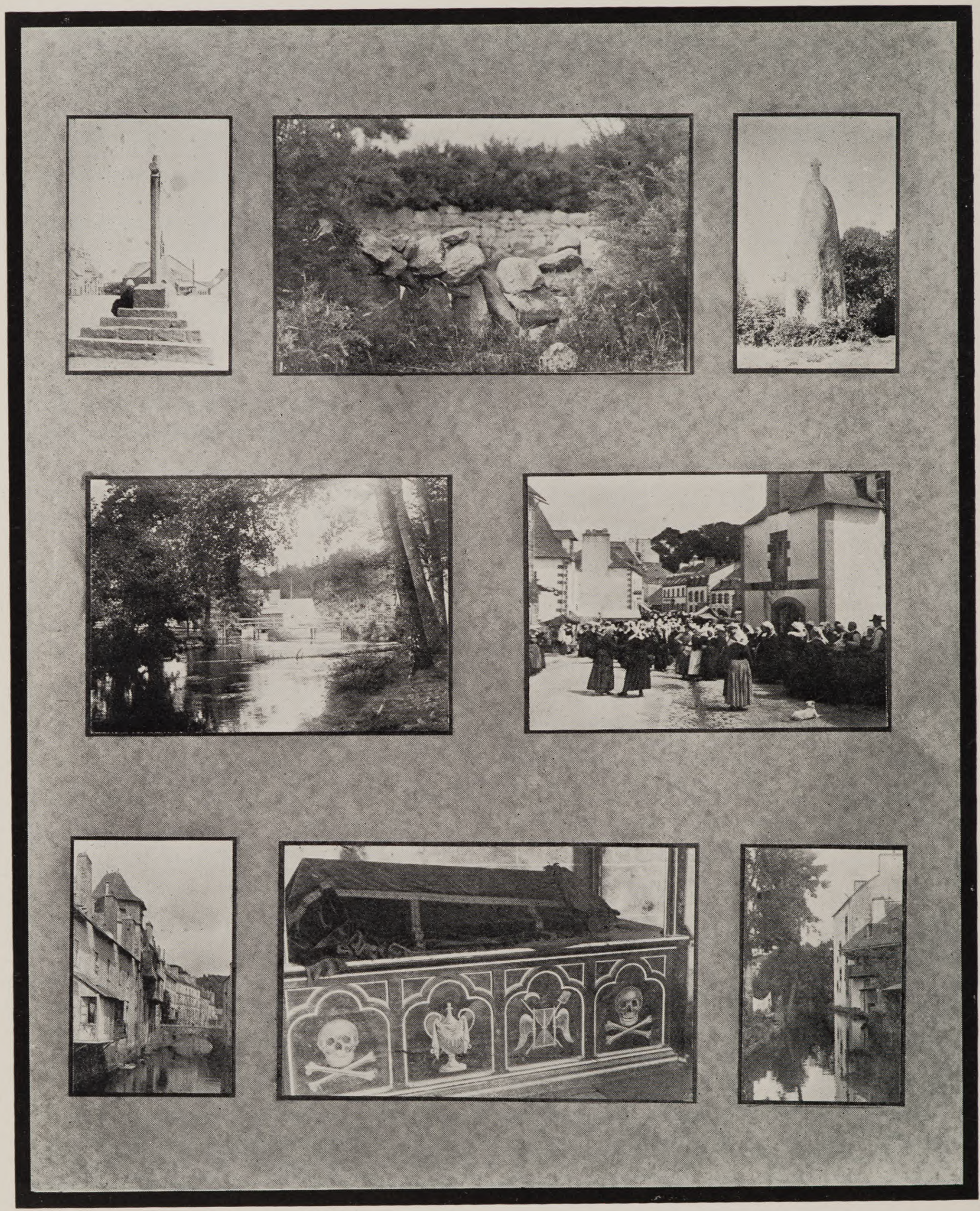
The movie maker thus has before his eye a constant reminder to make sure that the distance setting has been changed between shots if the distance has been changed. Quite often, for example, after a close-up has been made, the photographer forgets to change his focus when he shoots a picture at normal distances. This new mount gives him visual notice to make the necessary changes.

Another feature of the new lens is that the front cell is non-rotating. When the focusing diaphragm is turned, the whole lens moves on a spiral without revolving the glass elements. This makes it possible to employ all the attachments which have been developed for the 1 inch F 3.5 lens, such as the distorter, duplicator, duplex filter, and sky filters.

By means of three small screws the graduated portion of the mount can be turned to line up with the finder regardless of the position in which the graduations happen to be when the lens is screwed into the camera.

The second new accessory, the waist level viewfinder, enables the Filmo 70 camera user to determine his picture areas while holding his camera at any level lower than the eye. This facilitates taking those interesting unusual-angle scenes, such as "worm's eye views," without assuming an uncomfortable position. The new unit is not designed to replace the regular viewfinder, which is better fitted for general use, but merely to supplement it when special scenes are to be taken. It consists of two lenses and a prism mounted in a suitable holder which easily attaches to the camera door just above the regular finder. The field is the same as that covered by a one inch lens, but fields of other lenses of longer focal length can be etched on the face of the prism.

To attach the finder for the first time requires the use of a screw driver and possibly a file, but any one can do this work and do it quickly. After this first simple adjustment, to attach or detach the finder requires only a second or so.



1. A cross at Concarneau. 2. A "gate" of stones. 3. A cross on a Menhir. 4. Bois d'Amour, Pont Aven. 5. Market day, Pont Aven. 6. and 8. The River, Pont Aven. 7. A Catafalque.

Babbling About Brittany

by LAWRENCE GRANT

This is the seventh article of an unusually interesting series which Mr. Grant has written for this magazine. The next will appear in the November issue.—Editor's Note.

IF THERE is one thing that the peasant French, and particularly the Breton peasant, thoroughly enjoys it is the display and grief attaching to a death. The house will be swamped with black drapery, the near kin hidden and suffocated with black crepe, the hearse will be drawn by horses looking like black-velvet-caparisoned medieval chargers, and the hearse itself will be a nodding ark of black ostrich plumes. Then when we get to the church we shall find a catafalque on which to place the coffin, which will be of dead black and be covered with all sorts of unpleasant reminders of what has or will become of the deceased. These will include a funeral urn, though of course cremation is unknown, or at least unpractised in such a Catholic community, a Times hour glass, a scythe with which Time mows you down, a spade to bury you with, and a few skulls and crossbones to show you what will be left of you, and sometimes, in a more cheerful vein, a few little designs representing the soul going up to heaven.

A funeral makes a great day, and everyone is going to enjoy to the full every miserable and unhappy emotion that can be squeezed out of it. I remember a man once who went to a funeral, and on returning said that it would have been all right, but they put him to ride in the same coach with his Mother-in-law, and so "spoilt the whole day" for him!

I wish I had space to do justice to Pont Aven, but cram the two pages of photographs, which go with each chapter, as I will, I can only select a few of each place from my negatives.

Pont Aven,—town of lovely rivers. Rivers and rushing rivulets. It used to be called the town of forty mills and fourteen houses. Most beloved spot of artists in all France. Artists from every country. You may be in the company of any dozen artists in any place in the world, and to one at least, probably more, Pont Aven, the Bois d'Amour, and Madame "Julia" will be familiar names.

Those two little streets of water, Venice-like, are but samples of literally hundreds of such charming little bits of beauty. Wherever you turn a picture ready to be painted.

Market day here is very picturesque owing to the particularly large and effective bonnets worn in these parts. My picture was taken at a busy hour. What is the first thing you notice? **Women**—women—women—all women. A mile of women, chatting-bargaining—exchanging "potins." And where are the men? They are in town. Certainly, for they drove the women in from the little farms. And after that strenuous exertion they need refreshment, and so they are not visible, just two of them only in all this crowd, for on inspection I found the dog in the foreground belonged to the predominant sex.

But, O, dry American, do you see on the right a magic word painted on the side of the sizable building? **Buvette.** There are the husbands inside, and there they will probably stay, all day.

This is the life. Work hard all the week. Get up at cock-crow every day, and one day a week drive into town with your produce and your wife,—for she will be a better bargainer and merchant than you can ever be. Set up her stall. Lay out the vegetables, and the butter and the cheese and the chickens and the eggs. Then make a bee line for the Buvette, meet your cronies and drink and talk and eat till afternoon. Then gather up the money from your wives, pack up the stall, throw your wife and probably a daughter into the cart and back along the road home, the horse will be alright left alone to find the way, you can doze, in fact by now you probably cannot help it, and thus ends another darn dull hard working day.

The Bois d'Amour, the River Aven, the Moulin du Plessix, all bring memories of Pascaline. Poor soul, she had a rendezvous with her lover here, years ago,—but he did not come because he was killed in an accident, and she waited all day and into the night for him. As she has waited every day since. You will probably find her there still for she was not so old when I met her, hunting up and down the river bank, walking and occasionally breaking into a run as she spies some man with a vague look of Him she searches for. She will hurry up to you, and ask you if you have seen him, beseeching you to say that you have met such an one as you came along. Then hurry away muttering to herself. And this goes on day after day, year after year. Poor Pascaline.

Not far from Pont Aven we can leave all churches aside and go right back to Paganism, from which remember Brittany only emerged in the 17th Century! And nowhere in the world can the wisdom of the Catholic Church be more plainly discerned than in this country and in this very matter. They knew that it would be impossible to eradicate entirely all the superstitions, (that is if they are superstitions, though no one knows for a fact what is superstition and what is true,) so they absorbed them, and by absorption they gradually caused them to disappear into Catholic ritual and practice.

Only in some places such things die hard. At Quinipilly, and here in the Stone Country, there be many practices performed on moonlight nights that would shock Comstock, and gladden the heart of Earl Carrol.

The Goddess of Fertility is approached in these parts in a more public and spectacular way than at Quinipilly, and I have a friend here in Hollywood, where I write this, who can bear eye witness testimony to the fact that the ceremonies I suggest actually take place today.

So we come to the Stone Country. A district of megalithic remains that defy all attempts to correctly date or interpret them, for they have been said to be everything from Roman tombs, which is absurd, to petrified soldiers, which is legend.

The first curiosity that strikes any quick observer is that the use of stone persists so strongly that frequently field gates are made in the very primitive way of building up a stone wall. Every time you drive a flock in you take down the wall, and when you have herded in the last animal you build it up again. And you do this every time, so often in some cases, and so old are the stones that form the entrance, that I have seen the center stones which are most often moved have been worn into almost perfect spheres. This I have seen in Portland, England, which is the only other place where I have found these stone gates though I do not doubt you can find some in Derbyshire also.

We find here every few miles giant monoliths, either standing in solitary majesty in the center of a field, or in large groups.

Menhirs. Dolmen. Cromlechs. Alignments.

The words are practically the same in every country where Druids gathered. Brittany—Cornwall—Wales—Derbyshire—Wiltshire—Ireland. They are all Gaelic words.

Menhir. Men, a stone—Hir, long.

Dol, a table.—men, a stone.

Crom, crooked,—Leac, stone.

Every statement as to the origin of these stones is as good a guess as another. The only thing sure is that they are of immense size, great antiquity, and that they were brought from great distances, for no stone of similar kind is found in the neighborhood. And this applies to Stonehenge in England.

And one other sure thing is that they are of religious significance, though of what religion is again in the realm of doubt.

Many are covered with hieroglyphics, which have defied translation.

The setting up of a stone or stones as religious symbols is as old as man's first desire for supernatural help.

Rough unhewn monoliths, simple pedestals without human form, but with rudely carved indications that they represented anthropomorphic Gods and Goddesses, and attributes carved or affixed to indicate whether God or Goddess; Pillars of Pan, having a carved head on a square pillar with masculine indication, came next, and all these, from the crudest to the most modern symbol, can be traced to man's earliest days of worshipping that which created us.

In some centuries the emblems became realistic in the extreme, but later times have refined and conventionalized it all so that these religious symbols can only be recognized as to their origin by those familiar with the transitions from crudity to verisimiltude, and from that to aesthetic conventionalism.

But the symbol remains the same no matter how you may emasculate it, and by whatever euphemistic title you may call the Divinity of any race or religion it is always the **Creator** that is the object of their worship, and the be-all and end-all of their creed.

The recurrence of the "setting up of stones" is so frequent in the Bible and of such familiar knowledge as to need no specific reference. Bethel—Joshua at Jordan—Peter—"for on this Rock I will build my church."

Then we have Lia Fail, or the Coronation Stone sometimes called the Scone, on which all Scottish Kings were crowned, and which now is set in the woodwork of the Coronation Chair in Westminster on which all British Kings are crowned.

And don't we all sing "Rock of Ages?"

So stones have always been associated with religious rites and customs.

These groups and monoliths occur in every country, but France leads the world in number of specimens, there being about 1600 isolated Menhirs and 50 alignments in different localities.

While Stonehenge is probably the most perfect and spectacular single group, Brittany has by far the largest and most complete in the world. And this district, Carnac—Auray—Loc Mariaquer is thick with them.

In the illustrations I have placed a market-square Cross opposite a Menhir, which, in recent centuries, has had a Cross put on the top to redeem its pagan and fleshly appearance a little. But look at the general resemblance, and then look at the resemblance between the church tower a few chapters back and the menhir there. And remember the appearance of all church towers of this "round tower" period especially, and the minarets of mosques and the towers of Hebrew temples, they all have a similar origin, and that origin is the same as the old English Maypole, round which the maidens and the young men danced, for just the same reason as our midnight festivals are still held at Carnac and at Quinipilly in this year of Grace 1931. Absolutely yes.

At Menec is the celebrated Alignment of Menec, and close to this is the Alignment of Kermario. These are the largest group in the world. Both consist of monoliths placed in rows, about equidistant from each other. Both have large stones at the head of each group, which were sacrificial altars (human) furnished clearly with large hollows to receive the victim, and scuppers for their bloody purpose.

At Menec there are 1170 Menhirs in 11 lines. They start at one end standing about 30 feet high, then gradually decreasing till at the other extremity they are but 3 or 4 feet above ground.

Then a space of perhaps 300 to 400 yards and the alignment of Kermario starts, having ten rows and 982 Menhirs comprising it; again a short space and the alignment of Kerlescan begins in 13 rows and 570 Menhirs.

If you get a youthful or an aged resident to tell you about them he will assure you that Saint Cornelly, being hotly pursued by Roman soldiers wishing to kill him, fled before them towards the ocean. When he came to the sea it was evident that he was to be captured, so he faced his pursuers and with uplifted hand called upon God to save him. The pursuing soldiers were immediately turned to stones, and there they are to prove it.

As a good example of Menhir let us look at this fallen giant, or a portion of him, for he was thrown down and broken into four fragments in the 18th century during a storm of lightning and thunder. The whole stone is about 22 yards long and weighs about 342 tons. The piece showing is about 12 yards long.

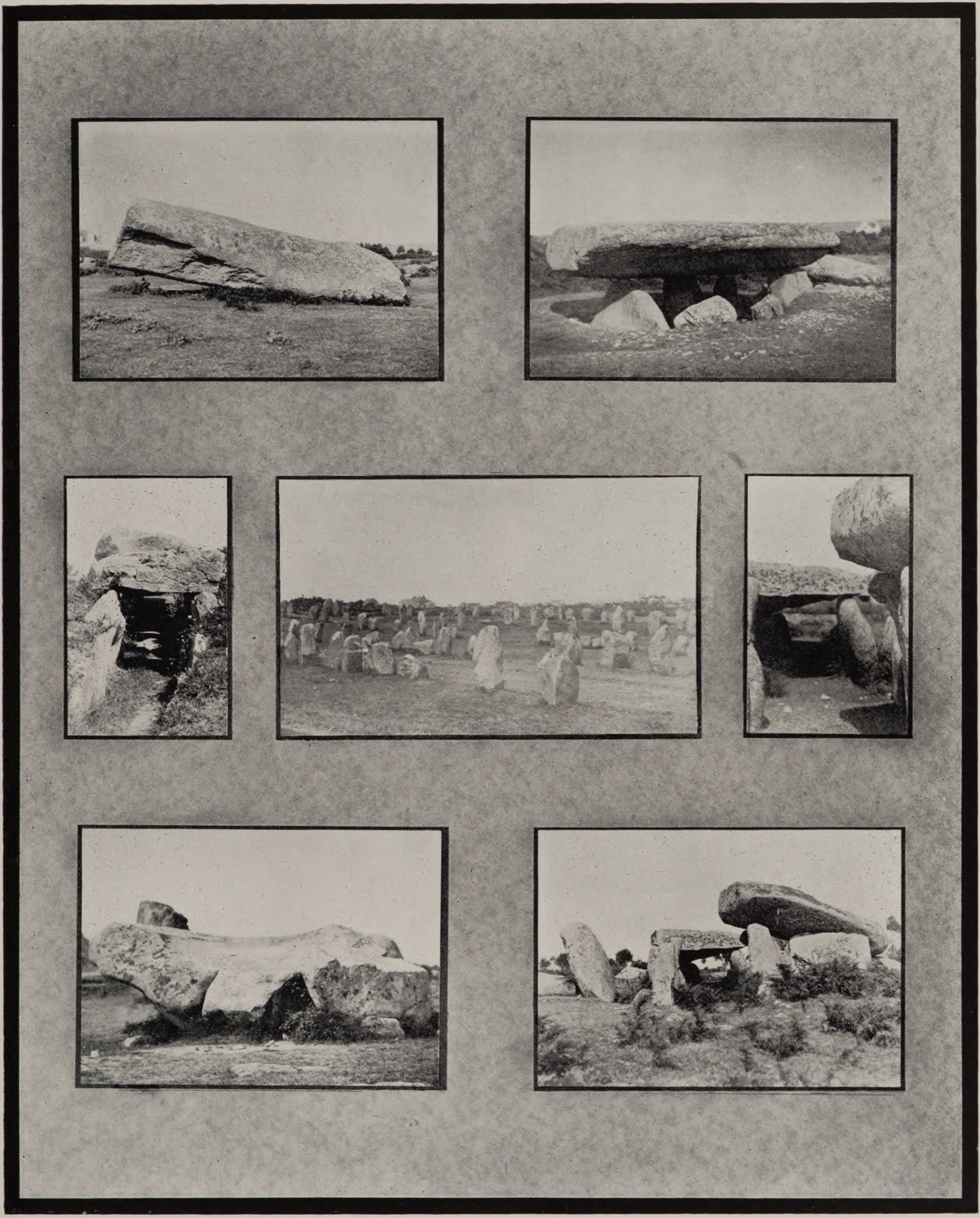
I have always thought it unfair to call so splendid a thing by a name that may translate as: "Peter, the Fairy"! Surely so smooth granite-strong a thing that has retained its rigid dignity for centuries, only to be broken, though unbent, by the hand of Heaven itself deserves better fate than the "fairy" class!

Adjacent to the Cromlechs and Menhirs are the Dolmen. Of these there are quite a number hereabouts.

I think the Dol-ar-Marc'hadourien or Merchant's Table is the best of all. One of the stones in the interior of this is covered with undecipherable and hieroglyphics. The top stone is poised on three other stones with a delicacy so extraordinary as to leave one wondering how it has remained there through the ages. And it practically dead level. How did they handle monoliths of such vast weight?

The interiors are small, and consist of only one chamber. They are only a few feet under ground. No one can say what they are or to what use they were put. Tombs, Priests' meeting houses, places to prepare the sacrificial victims? No one knows.

Showing how entirely speculative and a matter of personal opinion all solutions to these stones are, no less an authority than the Encyclopedia Britannica on pages 955 and 956, 13th edition, says that the theory that the Dolmen might have been altars is refuted because care has been taken in every case to place the smooth surface of the stone on the inside, and that the tops therefore could not be used as altars; whereas the photo I show here of the Merchant's Table has the smooth and level side on the top exterior, which would admirably adapt it for an altar.



1. Broken but unbent. Men-er-H'roeck. 2. Dol-ar-Marc'-Hadourien, or The Merchant's Table. 3. Interior of a Dolmen. 4. The Alignment of Menec. 5. Interior of the Dolmen of Mane-Keriaval. 6. Sacrificial Altar of the Alignment. 7. Dolmen of Mane-Keriaval.

Emery Huse

EMERY HUSE, A. S. C., technical editor of the American Cinematographer, has left Hollywood for an extended trip east. He will spend most of his time at Rochester at the Eastman Kodak Laboratories. He will also attend the fall meeting of the Society of Motion Picture Engineers. Many interesting features may be looked for in his department on his return.

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New M-R Lamp

MOLE-RICHARDSON, INC., this month announces another new lamp to the trade. It is called the "Handilamp," and an inspection of it reveals the fact that the right name was selected.

The lamp is universally adjustable to all angles. It can be adjusted from ten feet down to the floor, making it particularly adaptable for closeup work. It is very light in weight, being constructed of aluminum alloy and should prove a great aid to the cameraman.

Another feature of the lamp is the fact that the intensity illumination is adjustable. It uses a 1000 watt T20 bulb.

◆

Telephoto For Big Games

WITH FOOTBALL season now in full swing, amateur movie makers will have an opportunity to secure a lot of thrilling scenes at the big games. However, one of the most necessary items to take along is a telephoto lens. With one of these lenses you will be able to get the closeup of that particular play which may be the turning point of the game. Without it you will have an interesting picture, but if you happen to be far up in the stands you will miss a lot of real excitement. Next winter, or next year, when you are showing the picture you will be much happier if the telephoto has been made.

New Portable Recorder

(Continued from Page 13)

scenes were made with a nice little forty-mile-an-hour gale to help us.

"When we went into the battle scenes, the delicate galvanometer of the recording unit certainly got a good test. When we were set up beside the four-inch guns of the destroyer—and the guns were banging away merrily—the recorder came in for plenty of shocks, whether we were recording or not. We had half expected trouble—but we had none. And our records of the gunfire were excellent.

"Most of the key scenes of the picture were played on these boats, so the recording simply had to be good. The only difficulty that we encountered was one in no way due to the recorder, but to the nature of our location; this was in the matter of placing our microphones properly. On the clippers, of course, there was sometimes room enough to use a small, semi-portable microphone boom; but on the destroyers and the sub we couldn't use it, and had to set the mike up on a stand, often in rather poor positions. And, of course, those iron boxes that they call destroyers aren't always the best subjects acoustically! But we got our picture! And not only did we work in places and conditions which would have been utterly impossible in the early talkies, but we worked in ways which would have been equally impossible, for Sol Polito, A.S.C., who was in charge of the photography, tells me that, thanks to the baby recorder, he was able to work his cameras as freely as ever he did in the old silent days."

◆

Ries Bros. to Feature Home Movie Equipment

ONE OF the most complete lines of 16 millimeter motion picture equipment to be found in Hollywood is the present plan of Ries Bros. Inc., photographic supply store on Cahuenga Ave., according to Park Ries, who is in active charge. A projection room and other accommodations for the use of the amateurs will be installed. Amateurs will be welcomed there and every bit of cooperation possible will be given them. Park Ries will be on hand always to advise on any problems. His many years of professional experience will be of benefit to many amateurs.

attention

Volume 2 of the Cinematographic Annual will be off the press in November. Price $5.00 per copy—and worth it. Order NOW.

The Cine Camera and the Dance

by **PHILIP NEWBERG**

UNDOUBTEDLY every cinematographer has at some time or other attempted to make motion pictures of dances. It is equally certain that most of us have failed miserably at it. Yet why, we ask ourselves, should we fail? Is not the dance, like the motion picture, primarily a visual art? Why, then, have we been unable to capture the essential spirit of the dance in our films?

These questions are easily enough answered if we are willing to face the facts; but to do this demands an abrupt **bouleversement** in our mental attitude. The fact is that we have been regarding the problem as one of enhancing the dance by our cinematic skill, rather than merely being content to make a faithful record of an already complete artistic unity. And the Dance is just that: a complete artistic unity. Granting, of course, that the choreography and performance are properly executed, every dance is in itself a complete pictorial and dramatic conception. And the majority of our failures come from ignoring this fact.

The Dance is essentially a story expressed in rhythmic pantomime, usually to the accompaniment of music. The dramatic structure of the story is brief—almost telegraphic. Every movement is significant; essential. Therefore, no detail may be omitted in our photographic record, if it is to be an adequate one. Similarly, since the Dance is a fully developed dramatic form, it has its own means of emphasizing its salient points; therefore there is almost never any excuse for the intrusion of cinematic trickery for this purpose.

Having progressed this far—being decided to make a cinematographically simple, straightforward record of the dance—we have progressed far. But, we will soon find, by no means far enough. We are seeking to make a cinematographic reproduction of the dance; we have succeeded so far in making only a visual record thereof.

What is lacking?

Music—the means by which the rhythmic structure of the dance is emphasized, and the whole differentiated from pure pantomime into a distinct and complete Art-form. True, there exist occasional unaccompanied dances, but these are almost invariably self-accompanied by means of accented foot-beats, castenets, and the like. Music in some form must therefore be considered an integral part of every dance; therefore it must necessarily be included in our cinematic reproduction.

This, of course, presents no problem to the professional cinematographer who has at his disposal many types of talking picture recording apparatus. But it does present grave problems to the amateur cinematographer, or to the professional photographer who, like this writer, attacks the problem on a 16 mm. basis. For such workers the problem is not one of making a record of the dance and its musical accompaniment, but of making a record of the dance and perfectly synchronizing it to its appropriate music.

There are several ways of doing this. One may synchronize the dance itself with an accompaniment played not only during the making of the film, but also at each time the film is subsequently projected. If the occasion warrants the rather considerable expense, one may make the picture by this method, and then synchronize the accompaniment through the making of a disc record, perfectly synchronized with the final print, and reproducing the completed work with one of the several 16 mm. sound-on-disc outfits available. Or one may revert to the methods used by the makers of the first talkies—prerecording. In this case, choosing an existing, commercial gramophone record, suitable to the dance, and then rehearsing the two until perfection is reached, and then photographing the dance as performed to the accompaniment of the record, later projecting it with the same record for accompaniment.

Norma Gould in a dance pose from one of Mr. Newberg's films.

Of these, the first method is generally the most successful. It comes nearer to assuring the required perfect synchronization than anything except, naturally, the actual recording of the sound at the same time as the picture is made. The second method gives equally fine results, but at so high a cost as to be in most instances quite prohibitive.

But in any event, the keynote of success both with the musical and visual portions, is—rehearsal. Painstaking, detail-perfecting rehearsal. Perfection in anything is merely the sum total of perfection of details; even more so in this work, where the smallest details are so vital. This rehearsal is a tiring, time-consuming process, but it is well worth it. Anything is worth while if it results in a perfect picture.

From my personal experience—and from here on bear with me if I use the personal pronoun more frequently than is strictly modest—I think what every cinematographer must have is a sympathetic knowledge of the dance. As I have said, every dance has its story to tell. Obviously, the cinematographer cannot get the best results if he is not perfectly conversant with that story. He cannot regard the dance as a mere sequence of pictorial capers and posturings—and hope to secure a film showing it as more than that. Yes, he must know the story that the dancer is trying to tell. More than that, he must know something of the means by which the dancer expresses himself. He must know this because his pic-

(Continued on Page 39)

The Last Word

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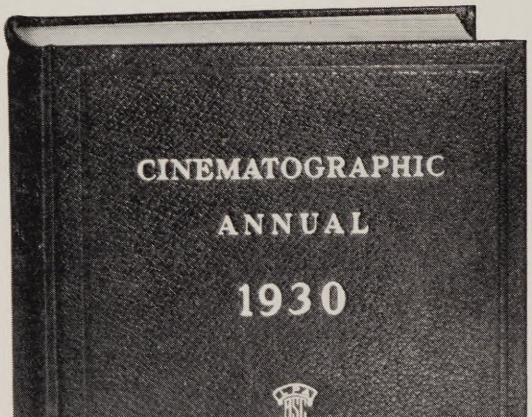

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Cine Camera and The Dance

(Continued from Page 37)

ture must, above all other things, be true to the Dance. He may at times be forced to sacrifice composition and lighting to this; but if he finds that he has to do so, he must do it willingly, knowing that it means the difference between a merely beautiful scene and a faithful reproduction of his subject. And dancing is the one subject in which photographic flattery is out of place.

Once knowing what to get, the question is: how to get it. The technique is simple enough, as the story is best told almost entirely in long-shots. But the time element is a complicating factor; your Filmo or Cine-Kodak will allow you but 30 feet of continuous action—and most dances require a hundred feet or more! So what can we do? We might, of course, use a hand-cranked camera; but that will rob us of the beautiful regularity of the motor-drive, which is so important in the portrayal of rhythmic subjects. Personally, I have found that the only satisfactory method is to admit the disadvantage; to plan each picture so that it may be broken up into 30-foot units, and photographed unit by unit. This requires infinite patience, careful planning, and still more careful rehearsal. But it will give you good pictures. Naturally, the units should overlap each other a foot or so, in order that they may be cut into a continuous, apparently unbroken sequence. This technique, of course, necessitates a tripod; but even if it did not, the tripod would still be necessary. I frequently use two cameras simultaneously, as a matter of precaution. At times, it is advisable to use one of the cameras to cover some other angle of the action; but this is rare. The simplest picture is the best. The dance is the thing, and, although, of course, the photography and composition should be good, there should be no striving for unusual camera-angles nor montage-technique.

The photography, composition and lighting should be simple and straightforward, but not obtrusive. Most dances create their own compositions from instant to instant; therefore the photographer's aim should be merely to accept these compositions, rather than to attempt to better them. If the setting can be used to enhance them, without detracting from the dramatic values of the dance, so much the better; if not, it need not matter. Many dances can be performed out of doors, and the natural settings in themselves serve to make the film more attractive. When the dance must be performed indoors, the setting should be as simple as possible. It is noticeable that the majority of the great dancers of the day rely very little upon setting, prefering to create a mental image of their background through the perfection of their Art. The cinematographer should recognize this, and plan his photographic details—cinematics, composition, setting, and lighting—so that they serve as a mere incidental background to the dancer's Art, much as do make-up and costuming in the dancer's appearances on the stage. When working out of doors, naturally the essential rules of photography should apply, inasmuch as working at hours that avoid top-lights, and the use of back-lighting, reflectors, etc., for modelling, need not detract from the dramatic purpose of the picture, and can enhance it. The same should apply in interior work; the lighting should be simple, pleasing, and technically perfect enough to display the subject attractively—but never obtrusive as lighting. Special effects can at times be worked in to good advantage. I recall one of Norma Gould's dances which I photographed, the plot of which required a shower. I managed to create a shower for the picture, which greatly enhanced Miss Gould's pantomime. But such instances are, naturally, rare.

In conclusion, let me advise anyone who would attempt to make such films to begin with the simpler dances, and work up from them. There is sufficient complication even in the simplest ones! Above all things, know your subject. You may be able to produce pictorially perfect films: but unless you take the trouble to learn enough about dancing so that you will at least know what you are trying to portray, you cannot succeed in making even adequate reproductions of dances. Most of all, be painstaking. No detail is too small. Perfection requires attention to every minutest detail; and, although few dancers may know a great deal about photography, they are specialists in their own field, and uncannily quick to recognize any slighted terpsichorean detail. And since, in the long run, you are making these films more for the specialized audience of dancers than for anyone else—even yourself—hew to the line of strict technical accuracy, even if at times you feel it makes you slight photographic and pictorial quality.

◆

Deep Stuff

FROM ENGLAND, Len H. Roos, A. S. C., F. R. P. S., General Manager of the Tanar Corporation, sends the above photo. He says it shows him and Frank Alexander of Photo-Sound Corporation in a selling huddle on board ship with Bert Mason of Bert Mason & Son, Commercial Motion Pictures. Roos is now somewhere in France or Spain.

◆

Retiring President

PRESIDENT JOHN I. CRABTREE of the Society of Motion Picture Engineers, retires this month after holding office for two years. Under Mr. Crabtree's guidance the S.M.P.E. has made very notable strides and has increased its membership at an almost unprecedented rate.

◆

1,000,000 Newsreel Patrons

THE NEWS THEATRE in Shaftesbury Avenue, London, celebrated its first anniversary recently. It is the first news reel theatre that was opened in Europe. Though its capacity is only 500, over one million patrons have passed the box-office; it is stated that there is seldom a vacant seat. It is sponsored by British Movietone News.

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Academy Nominates

THE Nominating Committees of the five branches of the Academy of Motion Picture Arts and Sciences have made their reports to the Secretary of the Academy. The five nominees for the Board of Directors are as follows:

For the Actors Branch—Conrad Nagel
For the Directors Branch—Frank R. Capra
For the Producers Branch—M. C. Levee
For the Technicians Branch—Max Ree
For the Writers Branch—Benjamin Glazer.

These five nominations and the nominations for executive Committees of the Branches were mailed in ballot form to the Academy membership. The election will be held on October 17, the polls closing at 6 p.m. that day. Immediately following that date the new Board of Directors will meet to elect officers for the coming year. The Annual Awards Banquet and Business Meeting of the Academy will be held at the Ambassador Hotel, Tuesday evening, November 10th.

Order Your Copy of the Cinematographic Annual NOW

In Darkest Africa

From Africa, Martin Johnson, noted traveler and hunter, sends photo of himself with Bell & Howell Professional Camera.

Sugar For Film Base Claim of English Inventor

ARTHUR S. FORD, an English chemical engineer, after more than 40 years of research work and experiment, has succeeded, it is reported, in transforming sugar into a plastic substance from which, it is claimed, non-inflammable film can be produced. Calling his sugar celluloid "sakaloid" the inventor claims he can produce celluloid for all purposes, at very low cost. The raw material used can be either beet or cane sugar in any stage of refinement, or even raw sugar cane; treated in one way, it freezes into a hard, glass-like mass; in another it becomes a transparent substance, with rubber-like qualities; while a third variation of the process converts it into a celluloid. A large American chemical corporation, it is declared, has interested itself in the invention and plans commercial production of the new material within the next few weeks.

◆

British Television

THE FIRST television broadcast from a British Broadcasting Corporation studio has recently taken place. The numbers comprised Swedish folk songs in costume, comedy songs at the piano and dances. The broadcast from No. 10 studio took place of the usual transmission from the Bair studios and was under control of the Baird Company engineers.

Screen Definition

(Continued from Page 12)

For central observation at a given distance the depth effect was remarkably good, but side view distortions again made it impractical for any theatre use.

Reviewing these three groups of screen treatments there is not only a possibility but a strong probability that with a proper understanding of their fundamental optical values, a combination of their in themselves more or less negligible merits would result in rather marked improvements in screen effects.

CONCLUSION

The foregoing analytical studies of the elements governing screen definition were by the physical limitations of this presentation only of a fragmentary nature.

They can be segregated as related to three groups of endeavors, those of

1. The camera designer and cinematographer.
2. The lens designer or manufacturer and
3. The projection machine and screen designer and builder.

These studies show a great number of possible improvements in screen presentation, all of them a help in more closely approaching natural vision when contemplating nature itself.

Where and whenever advantage has been taken of these facts, the related activities were and are usually decentralized and a cooperation of the above mentioned three groups on a carefully prepared plan of cooperation and proper combination would certainly bring screen results which are now only a hope.

◆

New M-G-M Laboratory

(Continued from Page 14)

departments is maintained at the same temperature and humidity. In this plant, on the contrary, the air of each room is constantly maintained at the temperature and humidity best suited to the particular work being done in that room. The loading and printing rooms, for instance, are maintained at a moderately cool temperature, with sufficient humidity to keep the film flexible, and insure freedom from static. The developing-machine rooms, on the other hand, are maintained at still different degrees of temperature and humidity, while the air supplied the drying cabinets of the developing machines is at a higher temperature than that of the room, and is completely de-humidified. All the air is, of course, washed and filtered, so that it is absolutely clean and positively dust-free. According to Mr. Nickolaus, this air-conditioning plant uses more than one hundred and fifty tons of refrigeration daily, and handles 105,000 cubic feet of air per minute.

From the practical viewpoint, aside from the extreme efficiency of the new plant, a very pleasing feature is that in every department room has been allowed for considerable expansion. Therefore, whether this expansion may be merely in the matter of volume, or in the line of such new developments as color or wide-film, the plant is likely to be adequate for many years to come. This indicates a degree of foresight too seldom found in the plant-building operations of this industry, and is a hopeful forerunner of the type of intelligently efficient operation which is one of the industry's greatest needs. Metro-Goldwyn-Mayer is to be congratulated upon their new plant, and its far-sighted chief.

◆

Install German Sound

FIFTY Bauer sound reproduction sets were installed in Belgium as of July 15. This is a German sound-on-film set. It is stated that this is a record number of installations for any single make in Belgium.

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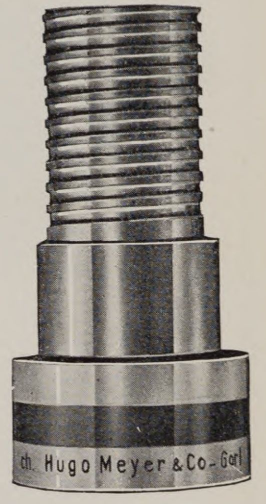

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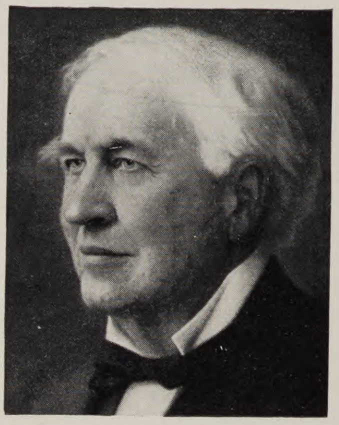


THE EYES of the world are centered on the home of Thomas A. Edison, who is fighting a noble battle against an illness that threatens to take him. Mr. Edison is one of the three honorary members of the American Society of Cinematographers, every member of which breathes a silent prayer that the great genius wins his fight.

◆

300,000 Home Projectors Sold in United States

FULLY 300,000 projectors or motion picture machines of the 16 mm. class have been sold in the U. S., exclusive of another 100,000 of smaller type movie machines that are termed toys and also use shorter lengths of 16 mm. films, according to A. D. V. Storey, executive secretary of the 16 MM. Motion Picture Board of Trade. Pictures are now offerd on the 16 mm. market by leading producers, including Paramount, Universal, Pathe, Columbia, FitzPatrick and others, says Storey. There are at present more than 1,000 productions in silent 16 mm. film for use on the home or non-theatrical projectors. These pictures are reduced versions of productions previously seen in theatres and include almost all screen favorites. Talking pictures available for the 16 mm. market already total more than 400, ranging from one to seven reels and also including leading stars. About 15,000 radio dealers are arranging to handle 16 mm. talkie machines.

◆

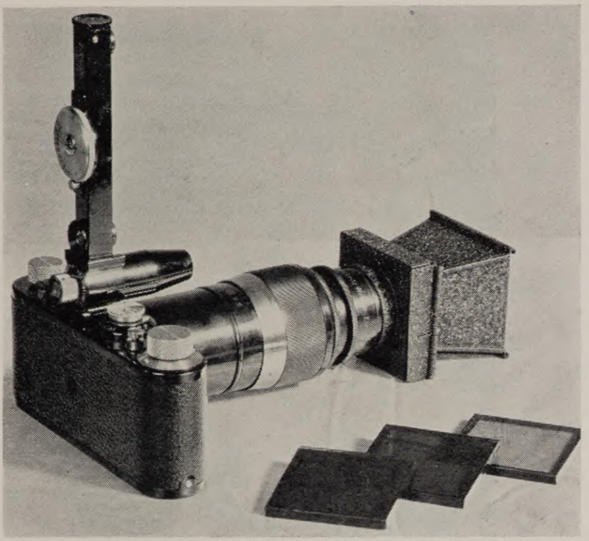
To Open 16mm. Exchanges

OPENING of 150 exchanges throughout the country is planned by International 16 mm. Pictures, Inc., which will release talking film libraries of 14 major producers. George Hoppert, advertising manager of Pacent Electric and Pacent Reproducer, joins the company Monday as vice-president.

◆

Kodacolor Time

AUTUMN is with us again, and in those sections of the country where the frost turns the leaves to all the beautiful colors of the rainbow opportunity presents itself for some beautiful scenes in Kodacolor. The amateur who does not take advantage of the season is missing a lot.



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Navy Uses Pictures for Recruiting

"ANCHORS Aweigh"! The Navy has "shoved off" on a new recruiting venture that is more modern than even Uncle Sam's most up-to-the-minute cruiser.

The potential recruit will no longer question the veracity of the glib tongue of the recruiting officer or the genuineness of the alluring scenes depicted by the Navy Recruiting Poster.

The dubious "prospect" can see and hear for himself the flashing action, the strange beauties, the wondrous sights that are the heritage of the lad who goes to sea.

The anxious parent, whose signature is required to "sign up" a minor, has all of his or her fears expelled by an actual portrayal of life on one of Uncle Sam's "battle wagons". The health-building life, the character-forming discipline and the broadening experience of travel are all convincingly depicted in sound and action on the talking screen.

Each of the 36 Regional Recruiting Offices of the U. S. Navy Recruiting Service has been equipped with an Animatophone Portable Talking Picture Unit.

The Animatophone is a sound-on-disc synchronizer of the type which is proving so popular in sales work and teaching. It uses the 16 mm. (narrow width) non-inflammable film which may be synchronized with either the regulation 16" Movie record or the 12" phonograph record. Its operation is very simple, yet it is said that the quality of the presentation is comparable to that offered by the better theatres.

Some of the Navy films which may now be seen and heard at Recruiting Stations are:

"Road to Progress"
"Progress in the Navy"
"Great Caesar's Ghost"
"Harem Scarem"
"Sailors of the Skies"
"Sharks of the Navy"
"Paths in Palestine"
"Shanghai Jesters"
"Outposts of Old Glory"
"Hello Hawaii"
"Anchors Aweigh"

◆

New Line of Rectifier Assemblies

A NEW LINE of rectifier assemblies in which is included power packs for operating photo-electric amplifiers, exciter lamps and other devices requiring low voltage, direct current, is announced in the course of development by the B-L Electric Co. of St. Louis.

Army To Build 5 Theaters

Washington—The Army has decided to build five $20,000 fire-proof theaters, for motion picture programs. They will be located at Fort Niagara, Fort H. G. Wright and Madison Barracks, in New York; Fort Hancock, N. J. and Fort Crook, Neb. Admission price for enlisted men will be 15 cents, civilians 25 cents and children 10 cents.

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Returns To China

WILLIAM H. JANSEN, who was elected to membership in the American Society of Cinematographers recently, has returned to Shanghai, China, after spending six months in the States. Mr. Jansen, who heads the Industrial and Educational Films, Inc., of Shanghai, has done remarkable work in China in the cause of the motion picture. For eight years he has made pictures over there and has built up an enviable reputation.

◆

Mole To Convention

PETER MOLE of the firm of Mole-Richardson, Inc., studio lighting equipment makers of Hollywood, has left for an extended trip through the east. He attended the Fall Convention of the Society of Motion Picture Engineers at Swampscott, Mass., and from there plans to spend considerable time in Rochester, Schenectady and New York City, and on the return trip will stop off at Cleveland for conferences with lighting officials and engineers of the General Electric.

◆

John W. Boyle Returns

JOHN W. BOYLE, former president of The American Society of Cinematographers, has returned from Sweden, Norway and Denmark, after several months in those countries. Mr. Boyle, accompanied by Mrs. Boyle and Ray Fernstrom, photographed some 30,000 feet of film while abroad, and Mr. Boyle is busy cutting and assemblying it now. In the November issue of this magazine will appear an interesting story by Mr. Boyle of his experiences abroad.

Low Key Lighting

(Continued from Page 15)

until his picture is on the screen and in the best possible form. In his work on the set, he must attempt to foresee every possible thing that can affect the quality of his picture between the time that it leaves his camera and the time that it reaches the screen, and inasmuch as may be possible, counteract it in advance. Motion picture photography is at best a complicated process, but when it is complicated by the unknown factor of today's variable photographic quality of release-prints, it is doubly difficult. It is hard enough, heaven knows, in these days of forced-draught production, to turn out photography that combines originality and that elusive thing known as "quality," but when one is trying to do this without any knowledge of the way that quality will be transmitted to the finished release print, it becomes all but impossible to do the best work. The free-lance cameraman soon finds out the qualities and characteristics of the laboratory service of the different studios, and he is invariably happiest—and working at his best—in those whose laboratory service, whether maintained by the company or done by an outside firm, is such as assures him of a definite, standard quality in his release prints. Thus, for the good of the industry as a whole, whose success so greatly depends on photography, it is to be hoped that the photographic quality of release prints will soon become as standardized as is their physical form already. When that day comes, although it will be putting the whole question of photographic quality squarely up to the cameraman himself, I am confident that not only will our photography be better, but that our work on the set will be far more efficient.

◆

Amplion Corp. Markets New Reproducing Unit

DEVELOPMENT of a new reproducing unit marketed under the trade name of "Octophase" has been announced by Amplion Products Corp., of New York City.

Efficiency of the unit, it is said, is from six to eight hundred per cent greater than that of cone speakers and its output volume so high it exceeds that of the average speaker by an amount equivalent to that obtained by the use of an extra stage of amplification. Not only may greater volume be obtained with lower amplification output, with the use of this unit, but due to the wide frequency range of reproduction, clearness and naturalness of tone, greater intelligibility of speech is realized at lower volumes, the company declares.

◆

Ufa Efforts

A JOINT push to attract new talent to the cinema is being made by Tobis and Ufa. A sum of 100,000 marks has been set aside for the campaign. Of this 10,000 marks will be spent in finding artists and screen talent. Prizes are being offered for scenarios and ideas. If one of the selected manuscripts is used for a film 3,000 marks will be paid to its author. If it is used only for a short the author will receive 1,000 marks.

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If you wish to reach professional, amateur or "still" photographers—laboratory, studio or sound executives—in other words, if you have anything worth-while to offer for cameramen, studios, theatres, laboratories or to the users of 16 mm. home movie equipment—you will find that an attractive, intelligent advertisement in

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will bring you splendid results. Our readers represent buying power. No waste circulation.

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Sound Problems—And Their Solution

by Robert Lothar Kendall
President, Kendell & Dasseville, Inc., New York

THE ULTIMATE solution of the motion picture industry's sound difficulties would seem to lie in the building of a higher standard, especially in its great and only partially prepared outlet, the world's theatres, by creating there mechanically and electrically perfect equipment, capable of reproducing its product in absolute minute detail.

Producers have learned to bring forth the best efforts of the acting profession, the director, the cinematographer and the sound technician. They have provided them with all the necessary facilities and equipment for doing so. Thus, the finished product reaches the exhibitor in cans all ready to serve his patrons.

Likewise, the exhibitor has provided himself with the best reproducing equipment available. But, what is the result? The exhibitor may be personally satisfied—the same, however, cannot be said of his patrons.

After all, dialogue motion pictures are nothing more than light and shadows projected upon a screen with which sound has been combined—in other words, an illusion. It is the exhibitor's duty to make this illusion as near perfect and life-like as possible. Just what efforts does he expend toward this end? In most instances he does exactly nothing!

Luckily, the industry is composed of a sufficient number of far-sighted theatre men who conscientiously strive toward the ultimate goal—perfect dialogue motion pictures, and it is that particular group one feels most in sympathy with.

An exhibitor's sound problems are manifold. Probably the greatest among his problems is, dat ol' debil, ACOUSTICS.

Millions of dollars have already been spent upon "cures" with only indifferent results. All sorts of products are offered. Let us name only a few of them: "Padding", tile, blocks, discs, plaster, drapes, carpets, seats . . . . ad infinitum; any one or a combination of which, naturally amount to a considerable investment of the exhibitor's part, with no assurance that his sound will actually be to his entire satisfaction.

It really does seem silly to change an auditorium to suit the sound, when the sound can be easily corrected to suit the auditorium. Does it not?

Sound research has now progressed sufficiently to study its characteristics under certain given circumstances and it has been proven conclusively that no existing theatre auditorium need be treated in any form to enable true and life-like reproduction of dialogue motion pictures. Neither need an auditorium be entirely filled with sound volume to bring about the correct optimum time of sound, or to reach extreme side seats. A lot of other carefully adhered to fallacies have also been exploded within the last eighteen months.

◆

Filmo Topics

BELOW are listed some of the features to be found in the October issue of Filmo Topics, the excellent magazine which Bell & Howell Co. publishes and sends free to amateurs. Just write for a copy to the Bell & Howell Co., 1848 Larchmont Ave., Chicago, and it will be mailed to you.

Titling Your Films. No. 10. A seasonable review of the preceding articles of this series.

Splicing Is Easy—Try It! How to splice 16 mm. film explained with five diagrams and a few words.

Let's Ape Our Big Brothers. Yes, the cine-amateur, like his Filmo, has a Big Brother to look up to.

Autumn Filming. October's cinematic offerings and how to do them justice with your Filmo.

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FOR RENT—Mitchell Speed Camera, equipped for Sound. Phone Don B. Keyes, HE-1841.

FOR RENT—Mitchell high speed camera with latest 40, 50 and 75 mm. Pan-Astro lenses. 1000 ft. magazines; loose head, tripod. Pliny Horne, 1318 N. Stanley. HO-7682 or HO-9431.

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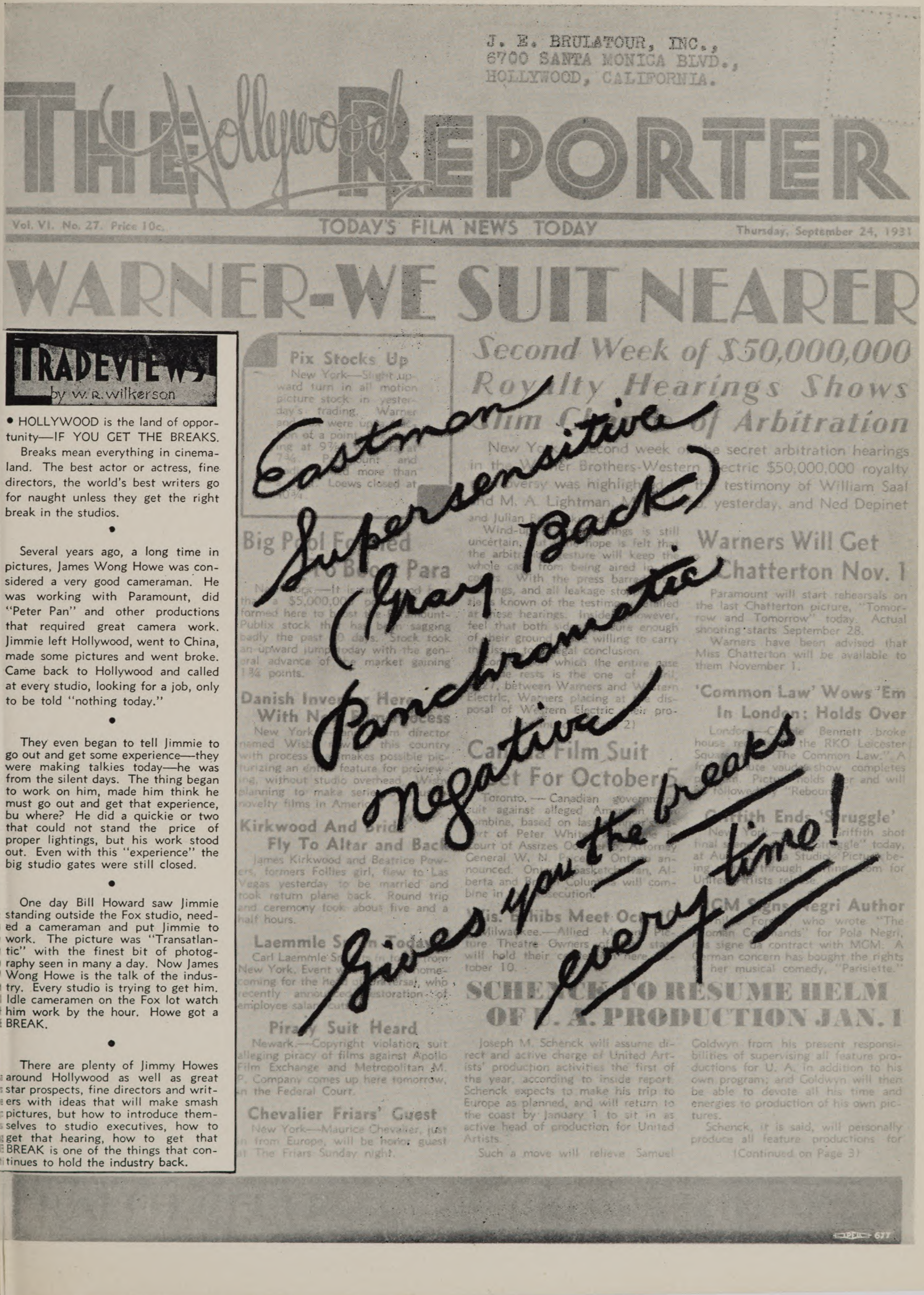

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THE Hollywood REPORTER

Vol. VI. No. 27. Price 10c. TODAY'S FILM NEWS TODAY Thursday, September 24, 1931

WARNER-WE SUIT NEARER

TRADEVIEWS

by W. R. Wilkerson

• HOLLYWOOD is the land of opportunity—IF YOU GET THE BREAKS.

Breaks mean everything in cinemaland. The best actor or actress, fine directors, the world's best writers go for naught unless they get the right break in the studios.

•

Several years ago, a long time in pictures, James Wong Howe was considered a very good cameraman. He was working with Paramount, did "Peter Pan" and other productions that required great camera work. Jimmie left Hollywood, went to China, made some pictures and went broke. Came back to Hollywood and called at every studio, looking for a job, only to be told "nothing today."

•

They even began to tell Jimmie to go out and get some experience—they were making talkies today—he was from the silent days. The thing began to work on him, made him think he must go out and get that experience, bu where? He did a quickie or two that could not stand the price of proper lightings, but his work stood out. Even with this "experience" the big studio gates were still closed.

•

One day Bill Howard saw Jimmie standing outside the Fox studio, needed a cameraman and put Jimmie to work. The picture was "Transatlantic" with the finest bit of photography seen in many a day. Now James Wong Howe is the talk of the industry. Every studio is trying to get him. Idle cameramen on the Fox lot watch him work by the hour. Howe got a BREAK.

•

There are plenty of Jimmy Howes around Hollywood as well as great star prospects, fine directors and writers with ideas that will make smash pictures, but how to introduce themselves to studio executives, how to get that hearing, how to get that BREAK is one of the things that continues to hold the industry back.

Pix Stocks Up

New York—Slight upward turn in all motion picture stock in yesterday's trading. Warner and [illegible] were up a fraction of a point, [illegible]ing at 9⅞, [illegible]ersal at 7¾. Paramount and [illegible] more than a [illegible]. Loews closed at 40¾.

Big Pool Formed to Boost Para

New York.—It is understood here that a $5,000,000 pool was formed here to boost the Paramount-Publix stock that has been sagging badly the past [illegible] days. Stock took an upward jump today with the general advance of the market gaining 1¾ points.

Danish Investor Here With New Film Process

New York.—[illegible] film director named Wisb[illegible] [illegible] this country with process that makes possible picturizing an entire feature for previewing, without studio overhead. Wisb[illegible] planning to make series of [illegible] novelty films in America.

Kirkwood And Bride Fly To Altar and Back

James Kirkwood and Beatrice Powers, formers Follies girl, flew to Las Vegas yesterday to be married and took return plane back. Round trip and ceremony took about five and a half hours.

Laemmle Sr. In Today

Carl Laemmle Sr. [illegible] in today from New York. Event will be a homecoming for the head of Universal, who recently announced restoration of employee salary cuts.

Piracy Suit Heard

Newark.—Copyright violation suit alleging piracy of films against Apollo Film Exchange and Metropolitan M. P. Company comes up here tomorrow, in the Federal Court.

Chevalier Friars' Guest

New York—Maurice Chevalier, just in from Europe, will be honor guest at The Friars Sunday night.

Second Week of $50,000,000 Royalty Hearings Shows Slim Chance of Arbitration

New York.—Second week of the secret arbitration hearings in the Warner Brothers-Western Electric $50,000,000 royalty controversy was highlighted by the testimony of William Saal and M. A. Lightman, [illegible], yesterday, and Ned Depinet and Julian B[illegible].

Wind-up of the hearings is still uncertain, but some hope is felt that the arbitration gesture will keep the whole case from being aired in the courts. With the press barred from hearings, and all leakage stopped, little is known of the testimony detailed at these hearings. Insiders, however, feel that both sides are sure enough of their ground to be willing to carry the issue to a legal conclusion.

Contract on which the entire case [illegible] rests is the one of April, 1927, between Warners and Western Electric, Warners placing at the disposal of Western Electric their pro-

(Continued on Page 2)

Canada Film Suit Set For October 5

Toronto.—Canadian government suit against alleged American film combine, based on last summer's report of Peter White, will be tried in Court of Assizes October 5, Attorney General W. N. Price of Ontario announced. Ontario, Saskatchewan, Alberta and British Columbia will combine in the prosecution.

Wis. Exhibs Meet October 10

Milwaukee.—Allied Motion Picture Theatre Owners of this state will hold their convention here October 10.

Warners Will Get Chatterton Nov. 1

Paramount will start rehearsals on the last Chatterton picture, "Tomorrow and Tomorrow" today. Actual shooting starts September 28.

Warners have been advised that Miss Chatterton will be available to them November 1.

'Common Law' Wows 'Em In London; Holds Over

London.—Constance Bennett broke house records at the RKO Leicester Square with "The Common Law." A forty-minute vaudeville show completes program. Picture holds over and will be followed by "Rebound."

Griffith Ends 'Struggle'

New York.—D. W. Griffith shot final scenes of "The Struggle" today, at Audio Cinema Studios. Picture is being rushed through cutting room for United Artists release.

MGM Signs Negri Author

[illegible] Forster, who wrote "The Woman Commands" for Pola Negri, has signed a contract with MGM. A German concern has bought the rights to her musical comedy, "Parisiette."

SCHENCK TO RESUME HELM OF U. A. PRODUCTION JAN. 1

Joseph M. Schenck will assume direct and active charge of United Artists' production activities the first of the year, according to inside report. Schenck expects to make his trip to Europe as planned, and will return to the coast by January 1 to sit in as active head of production for United Artists.

Such a move will relieve Samuel Goldwyn from his present responsibilities of supervising all feature productions for U. A. in addition to his own program; and Goldwyn will then be able to devote all his time and energies to production of his own pictures.

Schenck, it is said, will personally produce all feature productions for

(Continued on Page 3)

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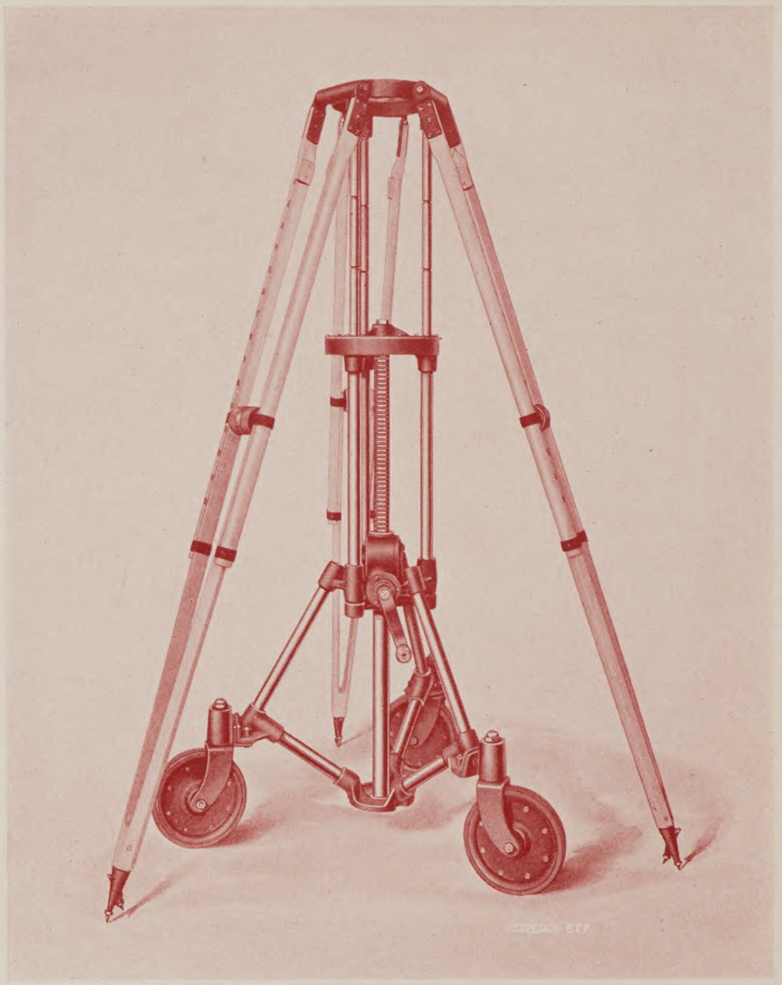

IN ADDITION to our regular tripods we are now manufacturing an adjustable height, rolling tripod.

This tripod can be adjusted to any desired height from 3½ feet to 6½ feet and is rigid at any point.

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